

In Conversation With Boeing CEO Dennis Muilenburg

Dennis M: Dennis Muilenburg started at the bowling company as a summer intern 34 years ago. He's an aerodynamics engineer. I was president, chairman and CEO before we plunge in. You come to us from rent in Washington where you build the MACs, the seven 37 Max. Yeah, we, uh, we had a, a board meeting over the weekend, uh, as part of our normal operating rhythm in Seattle. And, uh, we, uh, hosted that in Renton and I had took the opportunity to spend a little additional time with our team in Renton, uh, yesterday and, uh, spent some time on the factory floor where we build the airplanes, uh, talking to the team and just admiring the incredible work that they do. And, uh, we're also in the middle of our annual, we call a safety promise sessions where everybody across the Boeing Enterprise, 150,000 people around the world. Uh, we spend time, uh, in sessions with our employees talking about safety and our culture and who we are as a company.

Dennis M: And I had chance to do that with about 30 of our employees in Renton yesterday. Fantastic conversation. And just, uh, it gives me a lot of pride in our people and, uh, what they do in their commitment to the job and to safety. So, Dennis, we'll get to the future in a second, but in the present, Boeing has had a rough year. If I'm in this audience, if I'm watching on our livestream, I'm wondering why the hell are you doing this? Yeah, well, you know, it's, it's important that we continue to communicate. And you're right, we've, we've had a challenging year. I'm, yeah, I'm very, very proud of our company and what we do and the good things we do around the world. And, uh, we, uh, we have a, a, a phrase of vision for our company that we connect, protect, explore and inspire. And, uh, that's an important mission.

Dennis M: And we know lives depend on what we do. And it's important that we continue to communicate about what we're doing. And we have had some challenges on the seven 37 Max program. They've been very visible. A, the two accidents that occurred just have to have been devastating. And we will always, always be sorry for the lives that have been lost and the families have been impacted. Um, it affects all of us personally and that we'll never, that'll never go away. And, uh, you know, we're continuing to, to deal with that. We've also impacted our customers and, uh, there's flight schedules and, uh, the, the this summer, uh, and we regret the impact that we've had to the broader traveling public and the confidence that's been affected. So, you know, we're very humble about that. We've, we've learned a lot in the last year as a company. Uh, but it's also, you know, reinforced to us the importance of what we do.

Dennis M: We know lives depend on it. 5 billion people flying on our airplanes every day. Their lives depend on it. And it's reinforced us the importance of safety. So I wanted to be here today to convey that, that message, uh, one our, our humble commitment to our mission in the world and the importance of what we do. And also, uh, you know, continue to emphasize fact that we're committed, committed to safety. Okay. Plunging in six months. Yeah. Two crashes. Two new Boeing seven 37 jets, 346 people dead. Why? Well, you know, as we've, uh, as we've looked at both accidents in detail, uh, again, uh, anytime there's an airplane accident, it involves a, a chain of events. And, uh, we've, uh, spending time with the investigators to understand every dimension of that. Uh, we do know that, uh, one of the items that happened in both events was, uh, a

system on the airplane that's called m cass, uh, added to the workload of the pilots, uh, in, in both cases and a, we know there are some improvements that we can make to that software.

Dennis M: So we've identified some areas where we're going to make improvements to the airplane. Uh, that includes a updates to the software that we're very confident in is we've been, uh, flight testing that final software. We also see some areas we can improve in terms of training and education and how we work with our customers around the world. And we're making those improvements as well. So again, we'll, we'll learn from both accidents. Um, we're, we're devastated by what happened. We're humble, uh, about what happened. Uh, but we will as a result, increase the safety of our airplanes. And, uh, we're very confident that as we make these updates, the Max, you know, will be one of the safest airplanes ever to fly. So I've lost count. But you've said humble at least four times. Humility is not a hallmark of your industry or if the Boeing company, what's changed?

Dennis M: Well, I think it has always been a part of who we are as a company in terms of the, the integrity, uh, of how we operate. And you're responding to a very different reputational environment. The tone is certainly different. And, you know, we're, we, we are a, we're a strong company and we're proud of what we do and, and we know we do important work around the world and there is a certain confidence that comes with that. And I think it's fair to say that's always been, you know, part of who we are as a company. But we also have to realize that in the industry that we're in, in this aerospace industry, uh, the fact that lives literally do depend on what we do, that that demands a certain sense of humbleness in how we do our work and acknowledging that we can always get better.

Dennis M: So I would call it, I would term it a humble confidence and you know, but you would say you have more humility since the end of ICP? I think so. And I think, uh, I think we're learning as a result. And I think that's healthy. It's healthy for a company, you know, these uh, these accidents when they happened. Fortunately airplane accidents don't happen very often, but when they happen, they're devastating and they are defining moments for our company and for the industry. With what you know today, how much of the fault in these two crashes wise with training and maintenance and how much was the fault of the plane? I'm a, I'm not going to spend any time trying to attribute fault the investigations or are continuing and the regulatory authorities will do their job. That the fact is anytime a life is lost on one of our airplanes, that's unacceptable and it doesn't matter to me.

Dennis M: Uh, what the causes, right? We have a sense of ownership and responsibility about that. We want our airplanes to be absolutely safe. We want the flying public to be confident in our airplanes. So, uh, we're not going to spend time trying to attribute fault. We will spend time understanding every dimension of these accidents and making every possible improvement we can make as a result. So you say it's unacceptable and you have to say that. But knowing people of Boeing know that knowing the culture of your company, people are there, are very proud of what they've done. The company's interlaced with the history, not just of air, but the history of the country of the last more

than the century. Uh, your colleagues talk about the Boeing Company, they're proud of it. So ultimately people don't leave that it's primarily the fault of the bone company. Well, I would go back again to the fact that we, uh, we know lives depend on what we do and it's not our job to attribute full, it's our job to ensure safe travel.

Dennis M: We know lives depending on what we do. As I said, we have 5 million commercial passengers on our jets every day. We provide defense equipment to service men and women around the world and their lives depend on what we do every day. I can tell you, having been at Boeing for 34 years, you know, I came to the company as an engineer wanting to provide these capabilities safely to these customers around the world. We think that's a noble mission that's in the DNA of every Boeing employee. And I saw it again this week as I was on the floor and Renton, the people that build these airplanes have a such a sense of pride in what they do and a passion for what they do and knowing that lives depend on it. That's what we're about. And that's where we're going to continue to focus. So pilots in the United States have fantastic training, lots of hours required.

Mike Allen: But one pilot told me is the planes are so advanced and automatic that we've stopped teaching pilots how to fly, how to hand flies, the term they use. They don't know what to do when something goes wrong. Does that spell more trouble for the future? Well, I think it does give us, uh, some thoughts about how we, how we think about pilot training for the future. It's, it's good for us to continue to bring technology and capabilities to our airplanes. We're always focused on how do we provide airplanes that are best in the hands of our pilots and giving them every tool they need to fly the airplanes. Well, sometimes that's technology. Sometimes it's how we train and educate. But what we're seeing is that, uh, you know, global travel is expanding rapidly. Uh, we expect the, uh, the global air fleets airplane fleets to double in size over the next 20 years.

Dennis M: Uh, the world's of a lot of new pilots don't have to worry about pilots abroad. While the world will need about one and a half million new pilots and aviation technicians over the next 20 years. That must be very frightening for you if your name's on the plane. It's an important part of what we do. So not only do we have a responsibility to to design and support safe airplanes, we also work with our customers around the world on trading. And it's not just pilot training, it's maintenance training. It's every dimension of how those operations work. And I think our role for the future will continue to expand in that area. We have a responsibility not just for airplane safety, as important as that is, but more broadly global aviation safety, the entire ecosystem. And this is where we work with our great customers around the world to make sure we're, we're giving pilots and technicians and the maintenance personnel, flight attendants, everybody, all the tools that they need.

Mike Allen: So for my colleagues who are writing a news stories, you're saying that the Boeing company is going to take more of a hand in training, which in the past would have been left more to your customers. We have a large training business today that we do joint when there's questions and I would expect it to expand. And will you insist on it? Yeah, and we will. In fact, we're already making investments and these, these are things

where we can invest in areas where our customers will gain benefit from this. So as we're expanding our services business, as you know, we launched a Boeing global services as a new business a now almost two years ago. One of the elements of that is our training business. And as we invest in that business, we always look at it through the lens of what adds customer value.

Dennis M: So working with our airline customers around the world, we all see a need to add investment to training and education and bringing advanced technology to how we do that. We have a responsibility to do that. That responsibility is going to grow. And as an industry, you know, we all work together on global aviation safety. We don't compete on safety when it comes to the aerospace industry. I think that's one of the reasons flying on an airplane is by far the safest way to travel in the world is because as an industry, we all work together on safety. We don't compete on safety. And so we continue to raise the bars and industry. We have a responsibility to help make that happen. We have a big role to play and we're going to increase our level of effort there. Six months, 346 people dead. If I'm in any other business, I'm wondering, has anyone at the Boeing company you've been fired?

Dennis M: Hmm. Well we've had a number of personnel changes over time, but again, I'm not, I'm not going to talk about individuals, uh, in this situation. We will wait. Personnel changes over time. So people have been removed as a result of these deer rashes. Yes. And, and you know, it's my job and, and our management team's job to make sure that we're always putting the best talent in the right spots. And, uh, and you know, that's all part of the equation without talking about any individuals. How many changes like that and how high would you say they've been? Well, I'm not going to go into numbers or names, but no, no. That we have a commitment to excellence in our company in all of its dimensions and uh, it's an important part of how we invest for the future. Uh, I'll go back again to our relentless pursuit of safety and we're going to demand that in every dimension of our business that we have that kind of operational excellence and uh, the, these, uh, these accidents that, that the, the fruitful response to these is not to spend time trying to find fault or attribute that to individuals.

Dennis M: Uh, these are times where we come together, right? Where we UN, we gain understanding, we learn together and we focus on improvements. And I would much prefer to spend my time there. And my job as a leader, right, is to help create that culture where we are continuously improving. We want to create an environment where everyone feels comfortable bringing problems to the surface, right? We don't want to create an environment where we're problem stay hidden so much more about an open and inclusive culture, creating a leadership environment where if there are issues that are problems they can be brought to the surface, that we can deal with those. That's how you create a safe environment, a safe industry and safe airplanes. So, uh, you alluded to this just now, but inside Boeing there were red flags about these sensors and the automated system before the crashes, New York Times headline, Boeing built deadly assumptions into seven 30, seven Max blind to a late design change to those red flags get to you.

Dennis M: Well, again, I think it's important to go back and look at the actual facts of how the design was, was conducted. The Max development of the seven 37 Max was a six year development program. Uh, we had, uh, more than 1600 flight tests as part of that. Uh, we went through a very detailed design and certification effort jointly with the FAA and everything we did on the airplane was per, uh, those certification process. So you didn't believe the Red Flags? Well, we, we always identify areas of concern while we're developing designing airplanes and that's why we test and certify. So some of those areas that had been called out in the media as as red flags are things that we worked our way through as part of the normal design and certification process. Again, I'll remind you that at the end of that six year development process, this was something that with all of the regulatory authorities we've certified now again, we've learned some things.

Dennis M: There are areas we can improve this. This is why, again, aviation is so safe today is because we never stop learning and improving. We design and certify new airplanes. We bring new technology to the market that benefits our customers. It makes traveling more secure or more efficient, more environmentally friendly, creates better travel experiences for our customers. But that doesn't mean it's perfect. That doesn't mean we stop learning. We are always improving our airplanes in the field and, and that's, that's our focus. That's how we operate as a company. But ultimately, tragically, the red flags were, right. Now again, I don't a, some of them are, I don't, I don't attribute it that way. What we've learned from both of these accidents is a, there were a number of factors involved and we have to look at that holistically. There are clearly some things that we can improve on the airplane and we're making those improvements.

Dennis M: And even though, uh, you know, previously we've, we've followed our processes and we, we aligned with how we do certification. That doesn't mean we can't improve and, and that's the way, that's the way we're going to continue to operate. We will always, always pursue safety improvements. Last one on this, we have a pavilion. It's so fancy. I can't call it a tent. We have a pavilion full of leaders here. You just referenced the fact changes to help things bubble up. What specifically have you changed in your leadership team, your culture, your processes to make sure that more of those things bubble up to you? One of the big things that I've taken on since I became CEO of Boeing was a, was what we call our one Boeing culture. And this is to break down barriers across the enterprise to create clear communication lines, uh, to have an integrated strategy where everybody can see how their daily job connects into what we're about as an enterprise.

Dennis M: And so we've spent a lot of time on, on our one Boeing culture and creating that environment. But what have you changed since March? Or what do you plan to change that would really serve people here? What did you learn in the hardest possible way about what you could've done better to make sure that you got the bad news? Well, one of the things we're looking at is how we communicate things like our safety review boards and, and results of our technical studies. And I think what we found in some cases, well at the program level where, you know, decisions were being made and, and a safety review boards were all being conducted and done it in the right way. Sometimes those results were not communicated consistently with our customers, with our regulators. What about an intern internally to our company. And so there internally

as the president, CEO, chairman, internal departments really bothering so, so anytime we have compartmentalized information, we look at it and say that's what happened.

Dennis M: Why did that siloed? Yeah, we are. Sometimes the team thought they were solving a problem or making a decision that was certainly within their purview. But then we just think about how do we communicate that broadly for common situational awareness. And so those communication lines are some of the things that we're improving. Going towards the soon as, do you think we might see a seven 37 Max in the air? I'm not going to give you a specific timeline. I will say we're making good, steady progress on, on the works that we've made. So you had hoped end of summer. Does that still true? That's still the timeframe we're looking at. And we've gone through the uh, the software update. We've done our engineering test flights. Those had been completed. We're now in the process of a certification with the FAA and regulators around the world. They've done simulators, certification sessions. As soon as we complete that phase, we'll schedule a certification flight and then we'll get the fleets back up and flying. Uh, but in addition to to ungrounding the airplane, we have to work with all of our airline customers around the world so that the return to service is smooth and uh, and good for their passengers. So something you were telling me was we were standing over here on the side, kitty was taunting you about the six to 12 up my a six to 12 mile uphill

Mike Allen: a bike, uh, race that she wanted you to do. You were explaining there's a lag between the day the FDA recertified the Max, which will be massive news, but there's a lag from that day to the time that a plane or certainly all planes are in the air. That's eight weeks ish.

Dennis M: Yeah, it's ill. That's a timeline that varies for each airline. But just to give you a sense of it, we have about 385 maxes that we've previously delivered to airlines that are currently grounded. Uh, we've also been continuing to build airplanes in our factory in Renton at a rate of 42 a month. So we have a hundred to 150 additional airplanes that have been built but not yet delivered to customers. So if you add those all together, it's more than 500 airplanes that we want to get back into service with our customers. And our approach to this is what we call entry into service approach. In other words, each airplane, each individual airplane as a team assigned to it, working hand in hand with our customers and depending on those airplanes and how our customers want to ramp them back up, it could be measured in days or weeks for each airplane and processing through 500 airplanes. We'll take some time. And so that's the, the phased ramp up. Most importantly, again, we're going to be very focused on safe safety and helping our customers get the fleet back up, up, up and operating in a safe manner. But if I'm trying to write a story,

Mike Allen: Lori, off this, I'll say that from the day of recertification, the first plane will probably fly within two weeks.

Dennis M: Yeah. It, the first planes will fly shortly after measured in days and small numbers of weeks, a couple of weeks. Uh, but to get the entire fleet back up and flying will, will take months. And, and that's, uh, you know, something that will be paced, uh, by our customers around the world and their needs for getting the airplanes back up.

Mike Allen: So once the Max is back in the air, you're going to live in fear, right? If another one goes down because the Boeing company,

Dennis M: yeah. Yeah. Well, I'm not gonna I'm not going to live in fear. We're certainly going to pay attention to it. I am very confident in the updates we're making to the airplane that the airplane will be one of the safest airplanes ever to fly. And that a lot of regulatory scrutiny going into this airplane, additional scrutiny, which I welcome. Uh, so we're going to be very confident in the airplane and we're going to be paying extra special attention to it to make sure that it's operating well in the hands of our customers. So yeah, it will, it will certainly have our attention.

Mike Allen: And I will say, pilots told me that pilots tell me they will happily fly it. What about customers? That we have this new phenomenon? I was talking about this at our door party with somebody last night that now people pay attention, are cognizant of what the hardware is that they're flying on, which we used to just look at our studio, right? Like how long will it take the flying public to get comfortable with it? Yes, I'm going at seven 37 Max and I'm fine with putting my family on it.

Dennis M: Yeah, it'll take some time. So as I said earlier, we, we regret the impact this has had to our airline customers and to the public's confidence in the airplane, that that's been a real impact. And it will take some time for us to earn and our re earn the trust of the public. And it's not gonna happen overnight. It's, it'll be important that we get the airplanes back up and flying and flying safely and over time, you know, confidence will be rebuilt, but it has to be rebuilt on the fact that we're flying in, flying safely and we're committed to doing that. You know, that's, that's part of who we are as a company and we know that Boeing's name has been and should continue to be associated with safe flight. We build the best, highest quality airplanes in the world and we're proud of that.

Dennis M: As I said, we're, we're humble about it, but we're also proud about it because we know it's important. And when this airplane's back up and flying, we're confident it's going to be very safe. And we're going to be working with our airline customers to help rebuild the public's confidence. And I do, I do acknowledge that'll take some time, but I can also tell you we are absolutely committed to it and everyone at Boeing, including myself, is committed to safe flight. So Dennis Muilenburg, you're elected, you are now a definitional case definition. Case of crisis management. What have you learned? Well, a few things I've learned. One, uh, you know, in this, in this day and age of the highly connected world, um, communications are more important than ever. And you know, in this particular situation it is challenging because airplane accidents are governed by an international, uh, uh, rule.

Dennis M: It's called annex 13, which means the, the details of the investigation are kept private while they're, while they're being done. And we have to honor that because we're participation in the investigation. So it's somewhat constraints what we can say. There's been exculpatory information that you couldn't talk about. While there's information that we still can't talk about because the investigations are ongoing and where you feel it reflects well, it's exculpatory well and we want to respect the investigations. It is so important to us that those investigations be done with the utmost integrity and we're

just not going to talk about the details. There is good information that is not well. There's more information and that'll come out when, when it's, when it's appropriate to come out. That said, in this world, the highly connected world, we also owe information to all of our stakeholders. The, the public wants to understand what's going on and they should and regulatory authorities and airline customers and my employees and our supply chain.

Dennis M: We have tens of thousands of companies in our supply chain around the world. They all want information. So we've learned a lot about how do we respect the investigation process, but at the same time improve our communications. And I think that's one of the biggest areas that we can improve going forward is, is how we, how we keep all of our stakeholders informed while we respect the process. And we've also, as I said, learned some things about improvements to the airplane itself and some improvements on training and education. And, and I do think, you know, this greater investment in training and education and global aviation safety is another important learning for us. What have you been told about how long litigation related to these crashes could go on? A, I can't put a timeline on that. And again, I'm not going to comment on the those ongoing years for sure.

Mike Allen: It could be a decade. Yeah. And that's typically the case. If you look at the pattern of previous accidents, um, and you know, we'll, we'll deal with that in an inappropriate way. My, my focus is on returning the airplane to flight safely. If we focus on our core values around safety, quality and integrity, everything else will play out appropriately. That most important thing we can do is stay true to our values. And I spend a lot of time talking to my team about that principle. And it might sound awfully simple. Uh, perhaps tripe is really important. And in an industry like ours, those values matter, right? And it's in the core, it's in the heart of all of our people. It's who we are. It's very personal. And this idea of focusing on safety, quality, integrity, no matter what else is happening around us, no matter how hard the situation is, that's the foundation we go back to.

Dennis M: And, and when we do that, everything else works out okay. And we're going to be a better, stronger company. As a result, we're going to create even safer products as a result. And the world will benefit as a result. That that is our focus. But it sounds like your eyes wide open. You could be looking at a decade of litigation. Yeah, I'll be eyes wide open on that. And that's, that's very possible. Um, and again, there's precedent for that from previous accidents, but that's, that's not my focus. That's not my focus as a leader. My focus as a leader is on who we are as a company and, and ensuring safe products and safe travel. Should Boeing be liable for secondary costs to the airlines? All the workers who aren't painting planes aren't fixing planes, aren't doing their regular job. We're, we're having those conversations with our customers now and we, we regret the impact we've had to our airline customers around the world.

Dennis M: We know it's been a severe impact. And, uh, the summer season, you know, obviously has been affected, which has been big for many of them. The ripple effect to the traveling public has been very hard. So we, uh, we're going to be working with all of our customers around the world to make things right. And, and I won't get into the details of those because that'll be done individually customer by customer, but we have a

mutual interest in helping our customers be successful. So there are conversations about possibly reimbursing customers for some of their expenses, ongoing conversations with, with many of our customers. But again, those, those come in a variety of forums. You know, some, in some cases it's, it's financial impact that has occurred. But in other cases it's how do we help our customers with managing their skyline. Some might want to defer airplanes because they brought in interim lift capability.

Dennis M: Others might want new airplanes sooner. So accommodating some of those needs services and training things that we can do to help our customers in the field. That'll all be part of the discussion. So it sounds like you don't really know the bottom of the pool, you can't really see the bottom of the pool. When are they going to fly, when or do we get done? Like how much is it going to cost? Like you don't, it sounds like you don't really know. Yeah, we're working our way through all of that. And you know, it's important that, uh, we're making progress and I do feel very confident working with all of our stakeholders that we're making good, steady progress, that the exact timeline, the financial boundaries of this, you know, the, these are things that over time we'll, we'll figure out. But that's all secondary to safety.

Dennis M: Nothing matters unless we are confident that the airplanes are safe and that we can reintroduce the maxs in a safe way for all of our customers. And when we focus on safety first, which we will, these other things around timeline and impacts, we'll sort through those. So when you're the boss, you get a lot of free advice and one of your customers tweeted at you, what do I know about branding? Maybe nothing, but I did become president, but if I were Boeing, I would fix the Boeing seven 37 Max, add some great additional features and rebrand all caps the plane with a new name. That of course, was the president of United States giving you free advice on the twitters? Are you going to take his advice? Well, we're, we're not focused on, uh, on the branding and marketing around the airplane. We're focused on safety.

Dennis M: And again, to me, uh, this is not, this is not a, uh, a marketing or branding exercise. And I know, I know that's important and, and certainly it affects the public view. The most important thing we can do is ensure safety. We're going to stay very focused on that. I don't see a need to change the brand or change the name of the airplane. That's not where we're focused on. We are focused on ensuring that the Max is one of the safest airplanes ever to fly. And I'm confident that'll be the case. So you have considered it and you will not rename the plane. We have no plans to rename the plane. Uh, we know from our reporting that president Trump has spoken to you about your planes. What did he tell you? Well, we've had a couple of conversations. Again, those had been oriented on, on safety of the airplane, understanding, you know, what happened in, in the accidents.

Dennis M: And, uh, as you recall, when the grounding of the fleet occurred, we all arrived at that conclusion at the, at the same time had a, had a meaningful conversation as the FAA did their analysis, we did our analysis and uh, we all came to the conclusion that that grounding the airplane when it was grounded was the right thing to do. And now we're all focused together on safety. And you know, he's been a strong proponent of the

aerospace business in general, the aerospace industry and he loves his Boeing Point, which we appreciate and we're honored. We're honored to support him with, with Air Force One as an example. So again, we know we have an important mission and, and many, many lives depend on it. He has a great respect for the aerospace industry and we appreciate that. And again, we're very focused on focused on safety.

Mike Allen: He gets involved at a very granular level. He was a customer before in his private life. He is a now on Air Force One. What's it like when the president United States calls to discuss your product? Well I think it's a, it shows the fact the, of the importance of what we do. And so yeah, I'm frankly honored when that happens. And as I said, he's got a great respect for the aerospace industry. Uh, he has, uh, a very good understanding of airplanes and how they work. He's got a lot of knowledge and background in that area. And, uh, when, uh, when he pays attention to the work we're doing, I consider that an honor. And I think it reflects, again, the importance of what we do. Pulling back the camera, you've put out a 20 year outlook. What is the longterm outlook for the Boeing company?

Dennis M: Well, we, uh, we just over this last week, in fact, at the Paris Air Show released our annual, uh, Boeing Market Outlook update. So over the next 20 years, we see a world that's gonna need about 44,000 new commercial airplanes, uh, that will roughly how many of those will be yours? Uh, more than 50%. Um, so, uh, we're, uh, we're working hard on that, but it's that 44,000 new airplanes, uh, with our customers around the world. Will roughly double the fleet size of the airplanes around the world. Our market outlook also shows that passenger traffic around the globe continues to grow at about five to 6% a year. Uh, that's very sustainable. Uh, we also see that we have a number of new passengers, uh, with, with the affordability of flying as it has become today. Many passengers around the world being able to fly for the first time. So every year we're seeing a hundred to 150 million new passengers in the Asia Pacific region flying for the first time in their life.

Dennis M: And believe it or not, you look around the entire world, more than 80% of the world population has never taken a single flight. Right? So, so imagine this kind of traffic is growing at five to 6% a year. We have 80% of the world's population that will enter the traveling public. All of that is fueling growth. I would argue one of the strongest industrial growth sectors in the world. And it goes back to, again, the importance is this global fleet grows and doubles in size that we ensure it's safe, right? That that'll be a key element of growing that industry. We also obviously work in the defense and space industry, which is healthy. And I see more investment going into this space industry now than ever. I'm excited about the opportunities in human space exploration, both low earth orbit and deep space exploration. Uh, we do a lot of important defense work around the world, both us and our allies.

Dennis M: And we also see a lot of growth in our services business. So all together we see roughly an eight point \$7 trillion marketplace over the next 10 years. And it's a growing marketplace. So your life is held now, but over time you feel good about the industry and about the company. I feel very strong about that. We work in a great industry that has an important mission and we know that we add value around the world for all of

those customers. And arguably one of the strongest, uh, industrial sectors in the world. And we're investing in more innovation now than we ever have and we're going to continue to bring innovation to the marketplace. We, our company has one for more than a hundred years because we've been able to out innovate the competition and we're going to win in our second century because we'll continue to out innovate our competition in a way that adds value for customers.

Mike Allen: So you talk about the moon 2024 and that sounds like a long time away. That's five years. A lot of attention right now to the 50th anniversary of the moonwalk coming up next month. In five years. Will we be walking on the moon again? We will. So we are, we are currently with NASA building that next generation rocket. It's called space launch system. The missions that will be conducted with that new rocket are called the Artemis missions. So think of that as the sister to Apollo and that work is underway. We're building the first rocket now. It's about 80% complete in terms of stacking the rocket as we call it. It just to give you a feel for it. This rocket's about 384 feet tall, so about 38 stories tall. Uh, it, uh, it generates a little over 9 million pounds of thrust, or if you want to put that in car terms, it's about 208,000 corvette engines.

Dennis M: Uh, this a talking my language. Yeah. This rocket is about 30 to 40% bigger than the Saturn five rocket that originally took our, our astronauts to the moon and the Apollo missions. Uh, we will, uh, uh, use this rocket to get back to the moon by 2024. Uh, this time we'll stay on the moon. We're gonna set up a permanent presence again with NASA and the u s government and other collaborators. Uh, the plan is to also then build a gateway, a lunar gateway. Think of it as a space station, if you will, around the moon. That will then serve as a useful launch point to go to Mars. So the same rocket is being built with the capacity not only to return to the moon, but to ultimately go to Mars. And I'm firmly convinced that the first person that steps foot on Mars, we'll get there on this rocket that we're building today.

Mike Allen: And that's within 10 years or 20 years. I think within a 20 year time span, it's, it's, it's very feasible. It's possible within a 10 year time span, the technology will be ready. Uh, the challenge will be, you know, resources and funding consistency. And this is something that will require extraordinary government industry collaboration. So a decade would be a very aggressive timeline, two decades I think is very doable, but it's in that kind of timeframe and it's something that really inspires the next generation of talent. You know, when I, when I get the opportunity to go out and talk to students about careers in aerospace, uh, one of the things that gets them the most excited, most inspired is this idea of deep space exploration and being able to work on the first rocket Mars as an example. So tempting is it probably seems to you at this moment you are, I personally are unlikely to go to Mars.

Mike Allen: Uh, but something, are you going to disagree? Yeah, I, yeah, I, I, I would like to do it, but yeah, you're probably in a prop 55 right now. I might get a little too old for what you think. What is the, uh, what is the, the skyline is, you guys would say, well, don't know, we'll, we'll see what the future holds. Yeah. It's, it's not likely that I'll be one of the travellers even though I might want to be. Uh, but, but that'll said, I also see lower earth orbit, uh, evolving into a very real space ecosystem, uh, over the next, uh, few years.

Right? So we're already building the first launch vehicle for that. Some that, that kind of space travel, uh, going into low earth orbit, going to the space station or other destinations, uh, is very feasible and is something that I hope to do.

Dennis M: And I think in a decade that will be a very common thing to do, uh, for people to travel in space. And, um, space tourism, space factories, uh, that will all evolve very rapidly over the next decade. So you know, my personal obsession, uh, tell us about the path. The Path is called. It's a passenger air vehicles. So one of the other, uh, transformations that we see happening right in front of us is in highly congested urban areas. And many of you have spent time in traffic jams and I'm sure as have I, uh, over time you're going to see all of this two dimensional traffic in cities that's currently gridlocked on the streets, rise up and become three dimensional traffic flying taxis, if you will, in the air. Uh, we're already building and testing prototypes as are a number of other companies. We have a prototype Pav or passenger air vehicle.

Dennis M: It's undergone several flights. We also have a cargo air vehicle. It's designed to deliver large scale cargo in these congested areas as well. This will be a tremendous transfer transformation and how we help move people and products, especially in congested urban environments. And that transformation will happen over the next several years with prototypes already flying. I wouldn't be surprised to see initial commercial operations, uh, occur in the early 2020s. And is the path, there's something that you were trying around a major airport. Uh, tell us about like, what you're envisioning, like, like be very granular. Like what could happen? You could, you could envision a scenario where, uh, you want to make a trip to another city, so you'd have a, um, in radios, a couple of cities as an example. You have an integrated transportation system. Let's, let's say, you know, my next trip is, uh, um, going from Chicago to Seattle and, uh, I might, uh, get up in Chicago, use my app to say I need to get Chicago to Seattle.

Dennis M: What's fastest way to get their order a Pav to show up in my driveway? It could autonomously land. I'd get in the vehicle, it would take me to the airport. I'd get in a find a commercial airplane perhaps when Oscars United Airplanes and he got Oscars out here in the audience and, uh, fly to a, to a Seattle, get to my destination, have another path waiting for me on the ground that could take me downtown, perhaps your rooftop landing, uh, to get me to my final location. That kind of end-to-end integrated travel system done efficiently, done safely, uh, all done in a way that that creates time for passengers, frees up time for passengers, uh, that will happen. And that, that's an example scenario. So I know you've spent a lot of time thinking about the future of work. Axios covers the future of work very intensively and the scenario that you just sketched gives a lot of people were, that's a lot of jobs that suddenly will belong to a machine and not a human.

Dennis M: Yeah, I would argue quite the opposite because what we've seen over time is that we, as we inject these new technologies and capabilities, as long as we pursue technology because it's creating value for customers and it's really important that we have that value lens. When we create value for customers, what it does is it creates new jobs, creates different kinds of jobs. I can tell you we've done things like bringing automation into our, into our factories and uh, uh, we now have, again, that really scares people.

Initially it can scare people, but I can tell you when you go into our factories where we build airplanes today and you see our people who are working side by side with, with a robotic units, uh, manufacturing jobs and began to change some of those manufacturing jobs now include the ability to, to program and run, uh, these robots in our, in our factories.

Dennis M: Uh, we use in some cases some of the robots to do some of the, you know, more difficult ergonomic tasks, which creates less wear and tear on our workers, creates a safer environment for our workers. So not only does it create new and different kinds of jobs, it also creates a greater safety in our work in our workplace. So again, when you, when you look at technology from how can it add value for customers or the end stakeholders, not just technology for technology's sake, but add value, then we can see opportunities to create new and better jobs. Right? Tell us about the calf. Well, the cab is a, the cargo air vehicles. So a, a, a, a, uh, associate vehicle with our path. Uh, this particular vehicle is designed to carry a payloads of about 500 to a thousand pounds. So think of it as heavy cargo, uh, with the idea again, of being able to move that cargo autonomously through the air instead of being stuck in the ground in traffic.

Dennis M: So we see great opportunities for to add efficiency for a variety of customers. Also for our internal operations to be able to move heavy equipment between factories and to do it very efficiently. Uh, that vehicle is in a flight test as well. And, uh, we've gone undergone dozens of tests on that vehicle and again, we would look for near term, um, uh, operations of that that are adding real value. So I know you have a number of first flights. Yeah. Coming up, how much has the Max nightmare delayed or derailed the future plans we're talking about here? Well, we're, we're continuing to invest in innovation, so we're where you haven't stopped. And I will say that clearly the seven 37 Max has been our top priority and it's a, you know, it's consumed, uh, much of my time as it should, uh, along with my senior leadership team.

Dennis M: But we're also continuing to invest in next wave of, of innovation. We do have a number of first flights coming up. Uh, our new triple seven x commercial airplane, uh, biggest, uh, uh, single n or excuse me, two engine wide body airplane ever. Uh, we just completed high-speed taxi on that vehicle and we're proceeding towards first flight. We're building a new uh, uh, refueling drone for the u s navy that's called the MQ 25 sting rag. We just completed a initial taxi tests on that that's headed towards first flight. Uh, we're also building our new space taxi. The CST 100 Starliner and first launch for that is scheduled for a this fall. So we have a number of major first flights, first launches coming up, a lot of innovation coming to the marketplace and a, it's going to create great value for our customers. So you are a summer interns dream.

Mike Allen: You start a low person, a doing wing design, you wind up as the president, chairman, CEO, you actually spend a fair amount of time talking to your interns. What advice do you give them? Well, I do have the privilege of doing that and having started at the company as an intern, you know, I understand that the journey, I also understand, you know, what, what attracts interns to Boeing because, uh, we, uh, we hire about 2000 summer interns every year from schools around around the world. And many of them come to Boeing because they want to do something vague. They want to change the

world, they want to make a difference, right? And so what I often tell them, and I a, I do a number of round tables with interns and I also do an all intern video conference with 2000 of them, which is interesting.

Dennis M: And we've, we talk about, uh, have big goals, right? Start out, start out being a take on the biggest challenges. So find the hardest things you can do and do them well. Don't spend a lot of time thinking about a detailed career path. You know, when I came to Boeing, it wasn't my plan to be in this job. Ultimately I wasn't even thinking about that. But what I wanted to do was to go do great things. I wanted to change the world. And in a company like Boeing, you can actually do that. So I challenge our interns to, to take on those big challenges, to have a big appetite and then to always remain true to the values. You know, our, our company works. And I'll reiterate what I said earlier, this importance of safety, quality and integrity. So everything you do go back to that values foundation.

Dennis M: And when you have that big aspiration combined with the core values, that makes for a great career. So when you were an intern, you didn't have a plot to be here. Some of your interns probably do have a plot to have your job. Yeah. Why? I sometimes get that question as you might guess. So in will come to me and say, Dennis, what should I do? If I wanted to be the CEO of Boeing someday? What, what should I do? And, uh, I suggest as an intern, you know, don't, don't spend your time thinking about that or planning that. It's not something I spent any time on as an intern. Again, focus, focus on the opportunity at hand. Take the opportunity you have, make the most of it. And by making the most of each opportunity you have those next steps, take care of themselves, take a big opportunity, do it true to your values and you end up in a good spot.

Mike Allen: So my brother Scott is an electrical engineer. I know how engineers think as an aerodynamicist you think very differently than you do now. You were a manager. Yeah. Now the ultimate leader, what does that journey been like? How has your, you've personally, how have you personally adapted? Yeah, well I've certainly evolved as a leader over time and a, yeah, I started as an engineer and a and a wanting to be the best airplane designer ever. And as I got into early management and leadership roles, I started to understand the, the incredible value of a team around me, especially a team that brought, you know, diverse thoughts and perspectives and could constructively argue with each other. And I think what I've learned over time, it should be obvious, but one of the biggest things I've learned as a leader is how important the team around you is and how important the people are.

Dennis M: And at every job I've had, and even more so in my current job, my dependency on the people around me goes up. And so investing in other people, what I like call it people first, strategy is the most important thing a leader can do. Spend time investing in those around you that has the greatest multiplying effect that you can have as a leader. I think that's important. And, uh, and then combine that with the values I pointed out earlier, you know, my, my dad was a, he was a lifelong farmer in Iowa. I grew up as a farm kid in Iowa. That's how I, uh, you told me you saw a few presidential candidates. I did say as they traveled through Iowa and they early caucuses and I remember being in fields and

watching the, the, the stream of sedans go by. But you know, in Iowa, uh, I learned from my dad these, these core values about integrity, hard work and uh, you know, he was never a businessman.

Dennis M: He was a lifelong farmer. But those basic life lessons, they work everywhere. And in leadership roles like I'm privileged to have today, I think they're more important than ever. Penultimate question here at the Aspen ideas festival, we have one of the few audiences that actually is interested in regulatory capture. Uh, so, uh, tell me, uh, Congress has already looking at the self certifying process you have with that VA, which has the FAA is your partner, not your adversary. It kind of works until it doesn't, you clearly expect changes in that process. Well, I think we'll, we'll refine the process, but I do think the idea of this, what's called delegated authority and how the FAA and industry works together is a great formula. It's a way for the FAA to have, it's, it's appropriate independent regulatory authority. While tapping the deep technical expertise of industry.

Dennis M: And by the way, that's not just Boeing, that's, that's our entire aerospace industry. Hundreds, thousands of companies. And I, I firmly believe that's one of the reasons that over the last 20 years, if you look at the track record, the accident rate in aviation has gone down by 95%. It's, it's why the industry is so safe today is because of this collaborative relationship between the regulator and industry that maintains the regulators independence, but at the same time taps that deep technical expertise. So I, uh, I think we'll continue to strengthen that. We're certainly learning things, but we can, uh, we can enhance that process, but I think it's the right formula for the long run. So it sounds like you think the FAA will wind up with more muscle in this process. Why? I think they will. I think there are some areas where we can acknowledge that we want to continue to buttress the regulatory authority, uh, and how that plays out in the certification process.

Dennis M: We're also going to learn things that will strengthen our own processes. Internal belly. I've asked our board to set up a special committee that's already underway, being led by a admiral GTIN boss, Gianni, one of my board members, bringing in some external experts as well on how can we improve internally. I think it's good for all of us to look for ways that we can improve our processes and some of that will happen within the FAA and some of it will happen within industry as we say goodbye. Axios am Mike's top 10. My morning newsletter always ends with one fun thing. So we'll end here with one fun thing. A, we mentioned at the top, uh, you ride road bikes on mountains. Uh, you just finished a 105 mile bike race in the state of Washington. How many people were there and how did you do?

Dennis M: Yeah, why? I just completed a, what's called the chalet century. So for those of you familiar with the state of Washington Lake Chalan is a little northeast of Seattle up in the cascade mountains. Uh, it's one of my favorite long distance rides. There were about, uh, sorry, call about 1200 riders and we had about 50 Boeing writers out there over this hundred, five mile a track. And uh, I finished in a pretty good spot. And Go ahead. It's public knowledge. Well, I, it is out there. So I, I finished number 26 out of, uh, out of 1200, so all, all age classes. So I feel pretty good about it.

Speaker 3: Yep.

Dennis M: Well, you're very, you're very, you're very kind. But I will say what the important thing here is, right? It's important to invest in wellbeing and yeah, these are, these are challenging times. Would you want to invest in physical and emotional health? And yes, is part of how we do it and I think it's an important message for our team. And as you do these Boeing group rides, like what's the most awkward encounter or awkward moment you've had as the CEO riding with your colleagues? Underlings. Why? I often travel with my bicycle and I can, uh, I can bring together groups of 30, 40 Boeing riders almost anywhere around the world. And we often get out and we all have a little bit of competitive juice, right? So the race is often, the rides often start out as a ride and they turned into a race.

Dennis M: And it's interesting to see who, uh, you know, who's willing to really press the metal and the, and, uh, try to outperform the CEO, which I encourage. Right. And do some of the Bu. Oh, absolutely. Yeah. There are some writers that beat me and we do some of these jointly with, uh, with customers as well, which is a great way to get to know her. Tell us the truth. If someone beats you, will they be promoted? They will look, they will be looked upon highly. Yes. Thank you. As [inaudible] Dennis Molar. Bert, thank you for conversation. Thank you so much. I really appreciate it.