

Operator

Good day, everyone, and welcome to The Boeing Company's Third Quarter 2018 Earnings Conference Call. Today's call is being recorded. The management discussion and slide presentation, plus the analyst and media question-and-answer sessions, are being broadcast live over the Internet.

At this time, for opening remarks and introductions, I am turning the call over to Ms. Maurita Sutedja, Vice President of Investor Relations for The Boeing Co. Ms. Sutedja, please go ahead.

Maurita B. Sutedja - The Boeing Co.

Thank you, and good morning. Welcome to Boeing's third quarter 2018 earnings call. I'm Maurita Sutedja and with me today is Dennis Muilenburg, Boeing's Chairman, President and Chief Executive Officer; and Greg Smith, Boeing's Chief Financial Officer and Executive Vice President of Enterprise Performance & Strategy.

After management comments, we will take your questions. In fairness to others on the call, we ask that you limit yourself to one question. We have provided detailed financial information in today's press release and you can follow the broadcast and presentation through our website at boeing.com.

Before we begin, I need to remind you that any projections and goals in our discussion today are likely to involve risk, which is detailed in our news release, various SEC filings and the forward-looking statement disclaimer in the presentation.

In addition, we refer you to our earnings release and presentation for disclosures and reconciliation of non-GAAP measures that we use when discussing our results and outlook.

Now, I will turn the call over to Dennis Muilenburg.

Dennis A. Muilenburg - The Boeing Co.

Thank you, Maurita, and good morning. Let me begin today with a brief overview of our third quarter operating performance, followed by an update of the business environment and our expectations going forward. After that, Greg will walk you through the details of our financial results and outlook.

Now let's move to slide 2. Thanks to the dedicated efforts of our teams across the company, Boeing delivered third quarter 2018 financial results that include higher revenue, earnings per share and operating cash flow, driven by solid execution across the company.

During the quarter we generated \$4.6 billion of operating cash and repurchased \$2.5 billion of Boeing stock. We also paid \$1 billion in dividends, reflecting a 20% increase in dividends per share from last year. We continued to deliver on our commitment to returning cash to shareholders while investing in our people, innovation, and future growth.

Revenue in the third quarter was \$25.1 billion, reflecting higher services and defense contract volume. Core earnings per share of \$3.58 was driven by strong Commercial Airplane performance and a lower tax rate, primarily related to federal income tax audit settlements, partially offset by charges related to planned investments in the newly-awarded T-X Trainer and MQ-25 unmanned aircraft and cost growth on the KC-46 Tanker.

For the full year, we are raising guidance for revenue and earnings per share and reaffirming operating cash flow. We're also raising BCA segment operating margin while reducing BDS margin guidance. Greg will discuss these in more detail in his section.

With that, let's take a look at Commercial Airplanes. For the quarter, Commercial Airplanes generated revenue of \$15.3 billion, reflecting 190 deliveries, with operating margins of 13.2%. Continued healthy sales activities contributed to 171 net new airplane orders worth \$13 billion during the quarter, adding to our robust backlog that stands at more than 5,800 airplanes and is worth \$413 billion.

Year-to-date we have captured more than 630 net new orders. The 737 program continues to make good progress on its recovery plans to overcome supply chain challenges with 61 aircraft delivered in September, an improvement from July and August. In the third quarter we delivered 138 737s. We expect to recover the 737 line by the end of the year with fourth quarter deliveries expected to be above the production rate. The MAX production ramp-up continues. To-date we have delivered 219 MAXs, 57 of them in the quarter. We continue to expect MAX to account for between 40% and 45% of total 737 deliveries in 2018.

The 787 program further matured its rate readiness for 14-per-month next year. The program's ongoing quality and productivity strides helped to position us for a successful ramp-up. We continued to see improvements in first-pass quality and champion times being set across-the-board.

As for the 777X program, in the quarter we completed the static test airplane and moved it into test set up. We have also started building flight test airplanes on the low-rate initial production line in the main factory. We plan to start flight testing in 2019 and remain on track for the first 777X delivery in 2020.

Now, over to Defense, Space & Security. BDS reported third quarter revenue of \$5.7 billion reflecting higher volume across its business, including government satellites, Tanker, F-18, and weapons. Operating margins were negative 4.3% primarily due to charges related to planned investments in the T-X and the MQ-25 programs which I will touch on shortly.

BDS booked \$12 billion of new orders during the quarter, demonstrating the value we bring to our customers across our Defense, Space & Security portfolio. Those orders include wins on important future franchise opportunities. The T-X Trainer, the MQ-25 unmanned aircraft and the MH-139 helicopter. We also received the fourth KC-46 Tanker production lot for 18 additional Tankers in the quarter.

T-X is the Next Generation trainer providing the U.S. Air Force with advanced training capabilities to replace the T-38C Talon. We anticipate the T-X to be a franchise program for much of this century. Beyond the current U.S. Air Force contract, with potential global market opportunities for both trainer and light attack platforms of up to 2,600 aircraft plus ground-based trainers and advanced simulation technologies, representing a \$40 billion multi-decade platform and services opportunity.

The MQ-25 is the U.S. Navy's first operational carrier-based unmanned aircraft. Unmanned aircraft systems are proving critical in every aspect of air combat with MQ-25 autonomy and artificial intelligence technologies, applicable to a market opportunity of greater than \$20 billion, for more than 200 production and derivative aircraft. The MQ-25 and T-X wins are the culmination of years of unwavering focus improving our technology and de-risking the programs. We have developed and flight tested two all-new production-ready T-X jets with 71 flight tests having been completed to-date. We've demonstrated deck handling and engine trials on MQ-25 and we currently have an MQ-25 prototype aircraft in ground testing that is being prepared for first flight.

Our planned investments in these two programs will further mature technologies to address the sizable market potential as well as meet current customer commitments. Boeing will recognize the investments through an after-tax charge of \$541 million in the quarter. This strategy reflects a commercial investment mindset, a deliberate and purposeful decision to position ourselves to capture significant future market opportunity in services, support, training and platforms in the autonomous systems, trainer and light attack markets.

To give you a sense of the multi-decade return on investment, the initial T-X contract represents less than 20% of the full production run opportunity and less than 10% of the total lifecycle services, support and upgrades

opportunities. These investments are in-line with our balanced cash deployment strategy and leverage the strength of Boeing's business portfolio and financial performance to create sustained, leading-edge capability for our customers in the U.S. and globally, and the foundation of growth and valuable long-term franchises for all of our stakeholders.

Key operational milestones for BDS in the quarter included achieving first flights for Apache and Chinook for the Indian Air Force, and on the commercial satellite side, we successfully completed the acquisition of Millennium Space Systems, a provider of agile, flight proven small-satellite solutions complementing our existing satellite portfolio.

We continue to make steady progress towards final certification of the KC-46 Tanker and in September, we received the supplemental type certificate verifying that the refueling and mission avionics systems meet all FAA requirements. The milestone marked completion of KC-46 FAA certification. We are working with our U.S. Air Force customer towards completing all the steps required to deliver the first Tanker aircraft this quarter.

In the third quarter the program booked cost growth of \$140 million after-tax due to higher-than-expected effort to meet customer requirements to support delivery of the initial aircraft as well as incremental delays in certification and testing. And while there's still work ahead of us, we are moving closer to delivering these highly-mission capable aircraft to our customer. Currently four aircraft have completed the FAA ticketing process and have moved to the Boeing Military Delivery Center. We remain very confident in the long-term value of this franchise, a program that is going to have a production run measured in hundreds of airplanes and decades of follow-on support and training.

Now, turning to Global Services. BGS reported third quarter revenue of \$4.1 billion, representing a 12% growth year-to-date. Operating margins of 13.3% reflected higher parts and supply chain solutions volume, product and services mix, and higher period costs driven by investments to grow our portfolio offerings.

During the quarter, BGS won new business totaling approximately \$4 billion. This included an order from GECAS for 20 737-800 Converted Freighters, an F-18 spares contract for the U.S. Defense Logistics Agency, service contract for KC-46 Tanker for lots 3 and 4, P-8A training contracts for the U.S. Navy and the Royal Australian Air Force and a service support contract for the newly-awarded MH-139 helicopter for the U.S. Air Force. These orders highlight the strength of our One Boeing offerings.

Additionally, BGS completed the first heavy maintenance check on P-8 for the U.S. Navy. Earlier this month we completed the acquisition of KLX, a major global provider of aviation parts and services, part of our growth strategy of complementing organic investments with targeted strategic acquisitions. This transaction brings together the talent and product offerings of Boeing and KLX to provide a one-stop shop that will allow us to create significant value for our customers. The resulting boost in supply chain capability enables us to better serve our customers while profitably and purposefully growing our business. Our integration activities are well underway and progressing smoothly.

Separately, we are finalizing the definitive agreements for our proposed partnership with Embraer. In the coming months we'll continue to work with Embraer and its shareholders, the Brazilian government and regulators, among others, to complete the transaction and create the most important strategic partnership in the aerospace industry.

In summary, we delivered another quarter of strong operating performance, captured noteworthy additions to our large and diverse backlog, including key future defense franchises, returned significant cash to our shareholders, and complemented our organic growth with planned strategic inorganic investments.

With that, let's turn to the business environment on slide 3. We continued to see healthy global demand in our commercial, defense, space and services markets, markets that are growing and sizable at \$8.1 trillion over the next 10 years.

In the commercial airplane market, airline profitability remains strong and passenger traffic continues to outpace global GDP. Passenger traffic in 2018 grew 6.8% through August. Meanwhile, cargo traffic maintained its upward momentum, growing by 4% in 2018 through August. Our global customers continue to recognize the compelling value proposition that our new, more fuel-efficient product family brings to the market as reflected in the healthy new order intake we've seen year-to-date.

We continue to see the trend of diverse and balanced demand from a geographical perspective, as well as across the spectrum of airline business models. The changing nature of travel with the expansion of network city pairs and rising middle-class population in emerging markets has fundamentally expanded traffic patterns and underpinned sustained growth. There also is more balanced demand between fleet growth and replacement of older aircraft and we are seeing more consistent and stable customer purchasing patterns. We believe the evolution in key market dynamics in the

aggregate continues to drive greater stability and far less cyclicalities for our industry.

Over the long-term, we remain highly confident in our commercial market outlook which forecasts demand for nearly 43,000 new airplanes over the next 20 years. These deliveries, of which 44% will be driven by replacement demand, will double the size of the global fleet. This long-term demand, combined with healthy market conditions and a robust backlog provides a solid foundation for our planned production rates.

Turning to our product segments, starting with the narrow-body. Our current production rate of 52 per month and planned increase to 57 in 2019 is based on our backlog of nearly 4,700 aircraft and a production skyline that is sold out into early next decade. We continue to assess the upward market pressure on the 737 production rate.

In the wide-body segment, we've seen steady orders for the 787 and the 777 and have high confidence in a meaningful increase in wide-body replacement demand early next decade. For the current generation 777, the renewed strength in the air cargo sector has provided support for the 777 bridge as highlighted by recent orders, bringing the backlog to 87 aircraft. As we transition production to the 777X, we expect 777 deliveries of approximately 3.5 per month through 2019 as previously announced. While we still have some work to do in filling the remaining 777 production slots, in particular for 2020 and beyond, we feel confident about the 777 bridge progress. As we look forward to the 777X, we have a strong foundation of 340 orders and commitments that support our plan for ramping up production and delivery of this new aircraft. We are focused on further bolstering the 777X skyline.

We also captured 21 orders for the 787 Dreamliner family in the quarter, bringing the total year-to-date orders to more than 100. With nearly 1,400 firm order since its launch and more than 600 in the backlog, our plan to increase Dreamliner production to 14 airplanes a month in 2019 is well supported. We continue to see repeat orders for the 787 Dreamliner, including the recent order from United for 9 additional 787-9s highlighting the strong market preference for the 787 and its superior value.

Turning to our 747 and 767 programs, with our unmatched freighter product lines, we are well positioned to capture the increased cargo demand. This supports our 767 production rate increase from 2.5 per month to 3 per month in 2020. We remain focused on the strong, long-term aerospace industry fundamentals. It's important to have this in perspective as we navigate through global trade discussions.

Boeing maintains strong relationships with our customers, suppliers and other stakeholders around the world. We continue to engage with leaders in these countries to urge a productive dialogue to resolve trade differences, highlighting the mutual economic benefits of a strong and prosperous aerospace industry.

Turning to Defense, Space & Security. We continue to see solid demands for our major platforms and programs. The BDS portfolio is well positioned with mature world class platforms to address current needs and new franchise programs to build the future.

Boeing continues to see strong support for our key products from the Pentagon and in Congress. The fiscal year 2019 Defense Policy Bill authorized a fourth multi-year procurement for the F-18 and supported increases in munitions production in the Pentagon's aviation readiness efforts. The final appropriations bill for fiscal year 2019 U.S. Defense budget added funding for additional rotorcraft, funded the requested quantities of our key programs across our fixed-wing and commercial derivative aircraft portfolios, and funded our missile, space and satellite products.

Demand from outside of the U.S. for our defense and space offerings also remains high, in particular for rotorcraft, commercial derivatives, fighters and satellites. Our investment in future growth and new sales continues in areas that are priorities for our customers. We will continue to leverage capabilities and technologies from across our enterprise to win important opportunities such as the Ground Based Strategic Deterrent.

Turning to the services sector. We see the \$2.8 trillion services market over the next 10 years as a significant growth opportunity for our company. BGS provides agile, cost competitive services to our customers worldwide. We aim to grow faster than the average services market growth rate of 3.5% as we further expand our broad portfolio of services offerings and continue to gain market share.

Strong orders of \$4 billion in the quarter reflect our customers' recognition of our value proposition in helping them optimize the performance of their fleets and reduce operational costs through the lifecycle. These activities stretch across BGS's four capability areas, including supply chain, engineering modifications and maintenance, digital aviation and analytics, and training and professional services.

Our focus for BGS remains on optimizing the businesses and expanding our portfolio offerings through organic growth investments such as strengthening our vertical capabilities, complemented by strategic acquisitions position BGS for sustained long-term and profitable growth. Our

expertise, the global reach of our business and our strong customer partnerships have us well positioned to compete and win in this important sector.

On the digital analytics front, we will begin integrating a new data analytics tool into all Boeing Defense Australia support contracts, enhancing its position as a leading fleet services provider in the region. The Boeing AnalytX systems, featuring new technologies developed by Boeing in Australia, will give the Australian defense force access to more platform data than ever before, enabling Boeing to increase fleet readiness, safety and reliability while reducing maintenance costs.

In summary, with growing markets and opportunities ahead, our team remains intensely focused on growth, innovation and accelerating productivity improvement to fuel our investments in the future.

With that, Greg, over to you for our financial results.

Gregory D. Smith - The Boeing Co.

Thanks, Dennis and good morning, everyone. Let's turn to slide 4 and we'll discuss our third quarter results. Revenue for the quarter increased to \$25.1 billion reflecting solid BCA deliveries, and higher volume at Defense, Space & Security as well as Global Services.

Core earnings per share of \$3.58 reflect strong Commercial Airplane performance, higher Global Services earnings, and a \$412 million tax benefit related to the settlement of federal income tax audits for the years 2013 and 2014. These were partially offset by after-tax charges of \$541 million related to the planned investment on T-X and MQ-25 programs and \$140 million after-tax charge on the KC-46 Tanker.

Now, let's discuss Commercial Airplanes on slide 5. Our Commercial Airplane business revenue of \$15.3 billion during the quarter reflected lower deliveries, largely offset by favorable mix. BCA operating margins increased to 13.2% driven by strong operating performance on production programs, higher 787 margins, and timing of period cost. This was partially offset by a \$112 million pre-tax charge on the KC-46 Tanker program. BCA captured \$13 billion of net orders during the quarter and backlog remains strong at \$413 billion and more than 5,800 aircraft equating to approximately seven years of production.

On the 787 program, we delivered 34 aircraft and booked 21 net orders in the quarter, and the overall cash profile of this program continues to improve through favorable mix, supplier step-down pricing, and our team's day-to-day focus on improving 787 unit costs and overall cash generation.

Let's now turn to Defense, Space & Security results on slide 6. Third quarter revenue increased to \$5.7 billion, driven by higher volume across the BDS business, including government satellites, Tanker, F/A-18 and weapons. BDS margins of negative 4.3% reflected the \$691 million pre-tax charge on the planned investments related to T-X and MQ-25 programs and cost growth on KC-46 Tanker program of \$64 million pre-tax.

As Dennis mentioned, our T-X and MQ-25 investments are based on deliberate and intentional decisions to create long-term valuable products and services franchises. In selective key market opportunities such as these, we are taking into account the considerable market potential in our business cases and not just the initial order quantity with the current contracts.

For accounting purposes, we have to assess the anticipated costs and expected revenue over the life of the initial contract without taking into account the potential additional future market opportunities. Our planned long-term investments translate into earnings charges against these programs in the quarter. The charges do not impact cash flow in the quarter and our cash flow guidance for the year.

These investments leverage the strength of Boeing's business portfolio and financial performance and provide a foundation of growth and valuable long-term franchises for all of our stakeholders. These investments are consistent with our strategy of capital deployment priorities of investing in organic growth.

And finally, along with the T-X and MQ-25, BDS won a number of additional key contract awards bringing its total orders in the quarter to \$12 billion. BDS backlog increased to \$58 billion with now 31% from outside the United States.

Turning now to Boeing Global Services results on slide 7. In the third quarter, Global Services revenue increased to \$4.1 billion reflecting higher volume predominantly driven by increased sales of parts and supply chain solutions. Year-over-year growth of 14% for the quarter and 12% year-to-date more than meet our objective to outpace the average annual service market growth rate of 3.5%.

BGS operating margins were solid at 13.3% reflecting ongoing productivity efforts as well as mix of products and services in the quarter, offset by higher period costs for investments focused on expanding our portfolio of offerings going forward.

During the quarter, BGS won key contract awards worth approximately \$4 billion bringing our backlog to \$20 billion. The key wins this year underscore the strength of our One Boeing offerings to our customers.

Let's now turn to cash flow on slide 8. Operating cash flow for the third quarter was strong at \$4.6 billion primarily driven by timing of receipt and expenditures, planned higher commercial production rates, and strong core operating performance across the business. We remain focused and on track with our balanced cash deployment strategy. In the third quarter we repurchased \$2.5 billion of Boeing stock and paid \$1 billion in dividends reflecting a 20% increase in dividend per share from last year, and we continued to anticipate completing the remaining \$9.6 billion of repurchase authorization over the next 12 months to 18 months.

Since the end of 2012 we've repurchased approximately 230 million shares and increased our dividend more than 250%. At the same time, we've invested more than \$30 billion in key strategic areas to support long-term sustainable growth for Boeing, our customers, and our shareholders, and we remain committed to returning approximately 100% of our free cash flow to shareholders while continuing to invest in future growth opportunities.

Let's now move to cash and debt balances on slide 9. We ended the quarter with \$10 billion of cash and marketable securities, stable debt levels, and credit ratings. Our cash position continues to provide us with flexibility to invest in innovation and profitable growth opportunities while again returning value to shareholders.

Let's now turn to slide 10 to discuss our outlook for 2018. For full year, we're raising our revenue guidance by \$1 billion to now be between \$98 billion and \$100 billion. This increase in revenue primarily reflects the higher BDS and BGS volume inclusive of the KLX acquisition. As a result, we're increasing revenue guidance to now be between \$16 billion and \$16.5 billion for BGS and between \$22 billion and \$23 billion for BDS.

We're also updating our full year BCA and BDS segment operating margin guidance to reflect BCA's strong performance and investments in T-X and MQ-25 this quarter. BCA margin guidance is increased to now be between 12% and 12.5% from our prior guidance of greater than 11.5%, again reflecting strong performance and timing of some period expenses.

BDS margin guidance is reduced to be greater than 6.5% from our prior guidance of between 10% and 10.5%, again primarily reflecting the investments in the T-X and MQ-25 programs.

We are increasing our full year core earnings per share guidance by \$0.60 to be between \$14.90 and \$15.10 on net improvements after accounting for lower than expected tax rate, performance and charges.

We're reducing our full year guidance for capital expenditures to now be approximately \$2 billion, a \$200 million decrease from our prior guidance of \$2.2 billion, again reflecting timing of spending as well as performance.

As we look towards the remainder of the year our key focus areas include, continuing to manage the 737 recovery progress within our factories and throughout our supply chain, starting the delivery of KC-46 Tanker and continued healthy order momentum as well as continued strong execution across the portfolio.

So in summary, our core operating engine continues to deliver strong results. We will continue to use our three business unit strategy as a key differentiator to win in the marketplace, make prudent strategic investments, and leverage the talent and innovation across the company. At the same time, we will set challenging goals and objectives around elements of operations and support functions tied to profitability and efficiency to generate cash and improve working capital while delivering value to our customers.

All these will help us achieve our goal to grow year-over-year revenue, cash flow, and margins, so with that, I'll turn it back to Dennis for some closing comments.

Dennis A. Muilenburg - The Boeing Co.

All right. Thank you, Greg. With a strong three quarters behind us our team remains focused on further driving both growth and productivity. These results were achieved through the hard work and dedication of our employees and the great partnership we have with our customers and our suppliers.

In addition to the strong Commercial Airplane market dynamics I mentioned earlier in my remarks, we have taken our own actions to reduce cyclicalities in our business. This includes remaining disciplined in our production rate decisions, de-risking our pension liabilities, strategically phasing our research and development spending, creating labor stability with long-term contracts, and expanding our services business, which is also less cyclical. We have executed on our long-term strategy of robust and continuing organic growth investment and returning value to our shareholders, complemented by strategic acquisitions and partnerships that enhance and accelerate our growth plans. The planned strategic partnerships with Embraer, Safran, and the recent KLX acquisition and Adient joint venture are entirely consistent with this strategy.

Our priorities going forward are to leverage our unique One Boeing advantages, continue building strength on strength to deliver and improve

on our commitments and to stretch beyond those plans and sharpen and accelerate our pace of progress on key enterprise growth and productivity efforts.

Achieving these objectives will require a clear and consistent focus on the profitable ramp-up in Commercial Airplane production, continuing to strengthen our Defense, Space & Security business, growing our integrated services business and leveraging the power of our three business unit strategy, delivering on our development programs, driving world-class levels of productivity and performance throughout the enterprise to fund our investments in innovation and growth, disciplined leading-edge investments, and balanced value-creating cash deployment and continuing to develop and maintain the best team and talent in the industry.

All of which position Boeing for continued market leadership, sustained top and bottom line growth, and increasing value for our customers, shareholders, employees and other stakeholders. With that, we'd be happy to take your questions.

Question-and-Answer Session

Operator

And first to the line of Doug Harned with Bernstein. Please go ahead, sir.

Douglas Stuart Harned - Sanford C. Bernstein & Co. LLC

Thank you, good morning.

Dennis A. Muilenburg - The Boeing Co.

Hey, good morning, Doug.

Douglas Stuart Harned - Sanford C. Bernstein & Co. LLC

This will probably – this will exceed the one part. I'd like to just discuss the approach you're taking on defense. You'll be working on fixed price development contracts for MQ-25 and T-X and there's no question those will be big programs but the history of fixed price development as you know has not been good, and Boeing has been part of that history. And you took this approach on the Tanker, it's been continually more difficult than expectations. So can you describe how long it will be before you expect these new programs to generate returns and what the cash profile should be over time? And then, how do we get comfortable that you're accurately measuring the risk on these? And I'm just curious, do you see these kinds of

competitions as the future here? I mean these are aggressive bids and bring back a history to all of us.

Dennis A. Muilenburg - The Boeing Co.

Yeah, Doug, let me take a shot at your macro question, and then Greg, I'll ask you to add in on the cash flow profile as well. Now first of all, Doug, this is a targeted and very deliberate strategy focused on some key defense franchises that we believe have lifecycles that are measured in decades and between T-X and MQ-25, those two programs combined have roughly a \$60 billion opportunity space connected with them, so one, big targeted franchises.

We have taken a look at these in a very careful, diligent way, and have invested up front with a business case that is very strong and the return to our shareholders as a result is going to be very strong. So think of applying a commercial mindset to franchises that are measured in decades.

These capabilities are also going to bring immediate leading edge benefit to our customers and our men and women in uniform. So there's customer benefit and shareholder benefit. So, first point is that key strategic focus.

And to give you a sense of it on T-X, the initial contract here represents less than 20% of the total production run and less than 10% of the total services volume available in that contract space, so we have a tremendous investment capability here.

Secondly, to your point on risk. We have purposely, with these investments, significantly de-risked these programs, and they are fundamentally different than Tanker. On T-X, for example, we have two production-ready jets flying today. We've done 71 test flights already. We are highly confident in this program. These are small development programs leading to rapid production. So as you recall when we started Tanker, we still had a Tanker design on the drawing board. In contrast, today we have two flying production units for T-X.

Same thing on MQ-25. We made purposeful investments over the last few years to build a prototype aircraft that'll be going into flight test in the coming year. So again, the idea here is to accelerate capability for our customers and move swiftly to production. As a result, the risk profile of these programs are dramatically different than Tanker. So a solid business case, a significantly de-risked program, all looked at through the lens of making a good business case investment that is going to be good for our customers and our shareholders, and frankly, with the strong cash performance of our company, our strong financial performance overall, we

have the fuel to do this. This is an excellent use of cash in organic investment.

So I'll just provide those overarching comments, so Greg, if you want to add-on in terms of cash profiles and expectations.

Gregory D. Smith - The Boeing Co.

Yeah, I guess, I'd start kind of at the highest level, that our view of growing cash flow going forward doesn't change as a result of these wins. We've taken all that into consideration. If you kind of look at from a timeframe perspective on each of the programs, the MQ-25 through that EMD phase ends in about 2024 and then on T-X, the options start to begin in 2022. So it kind of gives you a sense of the – I'll say the breadth and timeframe along that development phase and then entering into production. So again, I think at the highest level, the cash flow profile that we are expecting for us to generate isn't going to change at all as a result of these. And I think as Dennis said, we made investments that are behind us as well that really try to de-risk both of these programs moving through the EMD phase and then ultimately moving into production.

Douglas Stuart Harned - Sanford C. Bernstein & Co. LLC

Okay.

Operator

Next question is from Ron Epstein with Bank of America Merrill Lynch. Please go ahead.

Ronald J. Epstein - Bank of America Merrill Lynch

Yeah. Hey, good morning, guys.

Dennis A. Muilenburg - The Boeing Co.

Good morning.

Ronald J. Epstein - Bank of America Merrill Lynch

It seemed like the quarter went actually pretty well in terms of getting the 737 supply chain back on track. I was wondering if you could just kind of talk about that a little bit more and then, when you think about what happened with the supply chain in this quarter, how do you think about like the next rate up and then potentially getting working towards 70 and how the supply chain can handle that?

Dennis A. Muilenburg - The Boeing Co.

Yeah. Hey, Ron, great question and we have been and continue to be very focused on 737 production program execution and recovery. We are seeing our supply chain return to a healthy condition but we're continuing to monitor that on a daily basis. As you've seen, we've had to work through some risk issues in particular on fuselages and engines with Spirit and CFM and we now have fuselages being delivered to our purchase order plans and we're also seeing engine recovery and while we still have some work to do there, we're anticipating engine recovery towards the end of the year.

You can see that reflected in deliveries, as well. The strong September deliveries give us building confidence on the recovery and as you've noticed, we have not changed our year-end guidance for deliveries, so we remain confident that we'll hit our total delivery target for the year. As a result, in the fourth quarter, as a composite, you should expect to see deliveries exceeding the 52 a month production rate. Again, those deliveries will be more back-loaded in the quarter as always but we're seeing good signs on our recovery across the board. And we're going to continue to stay very, very focused on executing that.

Now, as we look to next year, as you know, we're planning to step-up to 57 a month. We are taking some lessons learned from the recent 52 a month step and applying those. That includes ramping up staffing earlier. So some of the additional staffing we brought onboard for 52 a month is staying in place to help us with the 57 a month step. Supply chain health and in-depth monitoring of that has also been turned up and I think what you'll also see is that the nature of the next step is a little different.

This year was especially challenging as we stepped to 52 a month and we also had major model mix changes. Roughly half of the airplanes this year are NGs and half are MAXs. As we get to next year and towards the 57 a month rate break, we'll be almost entirely MAXs by that point. So the model mix challenge will not be as difficult as we step to 57 a month next year. So we're also factoring that into our planning. But I'll say bottom line here is we're staying very, very focused on this. It's very important that we continue to hit deliveries for our customers, and in general, we're seeing positive signs in our supply chain recovery and remain confident on the overall 737 production profile and ramp-up plans.

Ronald J. Epstein - Bank of America Merrill Lynch

Great, thank you.

Operator

Our next question is from Seth Seifman with JPMorgan. Please go ahead.

Seth M. Seifman - JPMorgan Securities LLC

Thanks very much and good morning. I wanted to follow up with another 737 question, this time on the demand side. You've talked about the upward pressure on demand and the potential to move higher than 57 a month. Is it possible to make a decision on that while there are still a lot of outstanding trade questions with regard to China or does that stuff have to kind of get settled before you can move forward with thinking about that investment?

Dennis A. Muilenburg - The Boeing Co.

Yeah, Seth, when we take a look at the trade environment, we maintain a long-term view on that. Certainly, something that's very important to us, we're very engaged in the dialogue and conversations with the U.S. government and with other governments around the world. In particular on the U.S. China relationship, we're very engaged with our Chinese airline customers and leadership in China, along with the U.S. government and both countries are interested a healthy aerospace industry.

In China, from a macro standpoint one of the fastest growing commercial aviation markets in the world. Over the next 20 years we said a world that needs 43,000 new airplanes; about 7,700 of those are in China. Traffic growth patterns are very strong in China and the rising middle-class population is a tremendous driver there, well beyond normal, I'll say GDP metrics, so about 150 million new passengers every year in Asia are fueling that growth. So China is very interested in a healthy growing aerospace industry.

Same thing in the U.S.; when you take a look at trade and trade surplus, the greatest trade surplus generator in the U.S. is aerospace, and within that sector, Boeing and our supply chain are by far the biggest component and that all leads to American manufacturing jobs. So there's strong reasons in both U.S. and China to have a healthy, prosperous aerospace industry. You combine that with backlogs and as we said earlier, with more than 5,700 aircraft, 5,800 aircraft in backlog today, and in particular, for narrow-bodies, 737s, strong backlog, we're filling skyline in the 2023 timeframe, right? So this is a long-term view.

So while we pay attention to trade, and we're very engaged in it, it's very important to us, it's not something that changes our near-term modeling and analysis. Our decisions around stepping up to 57 a month are strongly supported by the backlog that we have in position and the commitments we have with customers and really our decision drivers around stepping to 57 a month will be health of the production system, the supply chain, our ability

to execute that in a way that's smooth for our customers and profitable for our company. And so it's very much focused on that internal operational productivity and a healthy production line. And we're going to step to 57 a month when we're ready to step, and we remain confident that that step we'll take next year and we're going to continue to do our diligent work to make sure that's done in a smooth manner.

Seth M. Seifman - JPMorgan Securities LLC

Great. Thank you.

Operator

Next we go to Peter Arment with Baird. Please go ahead.

Peter J. Arment - Robert W. Baird & Co., Inc.

Yes, good morning, Dennis, Greg.

Dennis A. Muilenburg - The Boeing Co.

Morning, Peter.

Peter J. Arment - Robert W. Baird & Co., Inc.

A question on BDS, just looking at the growth profile and going forward you've had a tremendous amount of wins with T-X, MQ-25, you've got the Tanker with the KC-46, obviously the helicopter franchises, P-8. How do we think about the growth just in the budget backdrop when we think over the next couple years? Thanks.

Dennis A. Muilenburg - The Boeing Co.

Yeah, Peter I think there are a couple of factors there. One, as you said, the macro environment, the budget is healthy and strong. We've seen good, positive signs on strengthening U.S. defense budget, not without risk, as we look to future defense budgets and Budget Control Act profiles and it's a year-to-year battle as you know. But we've seen more and more signs of sustained, long-term stable defense budget in the U.S. International defense budgets continue to strengthen as well. As Greg said earlier, about a third of our backlog is in international defense, so the macro budget environment for defense is strong right now.

Within that, funding for our programs has been very good and as you noted with our recent T-X and MQ-25 wins, our MH-139 win, all of those will fuel growth. As we step the Tanker program into production, that will fuel growth as well. And if you look at that in a composite, we still see our defense

business as a modest growth business. It's healthy and the recent wins are going to make it even more healthy.

Operator

Our next question is from Carter Copeland with Melius Research. Please go ahead.

Carter Copeland - Melius Research LLC

Hey, good morning, gentlemen.

Dennis A. Muilenburg - The Boeing Co.

Morning, Carter.

Carter Copeland - Melius Research LLC

I just want to go back to the BDS charges and the investments as you've characterized them, just two elements. As you think about bidding this way, what do you target? Are you thinking about risk-adjusted ROIs? How do you square that with your current incentives on near-term earnings per share?

And then secondly, was there something different about your offerings in each case? I mean, a competitor – you took a \$700 million charge, you had a competitor say they would have lost \$5 billion on it. Do you think there are differences in cost or product capabilities versus the KPPs or assessments of the overall risk? If you could help me with those two things I'd appreciate it.

Dennis A. Muilenburg - The Boeing Co.

Carter, I'll take the first cut and then, Greg, feel free to add in here. First of all, again, our mindset around this is to focus on those key defense franchises that create long-term value, sustained decades of opportunity, so these are a few very select very targeted areas, and as we've mentioned over several years now, T-X and MQ-25 are in that category. We've made purposeful investments to de-risk the programs to build flying hardware, to provide capability for our customers and our men and women in uniform to accelerate capabilities for them and to invest in a smart way that creates value for our customers in the long-term.

To your point on incentive targets for our team, our incentive targets are a balanced set of targets, both annual and long-term, and what you see here is an exact reflection of that philosophy. It's making the right short-term investments to produce long-term value, and the fact that we were able to make these investments and in a single quarter in essence, pay for those investments, because of the great performance of the company, shows our

ability to fuel smart investments through the future. That is the balance and I think unique capability that this company brings to our customers.

That's really our mindset around these kind of investments and we remain very confident that the investments we make here have great business cases, will create great value for our shareholders as well as value for our servicemen and women. So that's an important parameter for us.

Now, in terms of your comment about the competitive environment, I can't really comment on our competitors' bid positions but what I can comment on is the fact that we're able to bring very affordable solutions to our customers because of the investments we've been making in productivity. I think as you're well aware as we've had – as we've shown many of our investor partners, the fact that we're investing in things like our second-century design and manufacturing capabilities, advanced digital designs, all of these Next Generation design production and support capabilities are being reflected in these new products that we're bringing to our defense customers. So they are affordable, they are extremely capable, they provide great capability for our customers, and they create value for our shareholders. Greg? Anything you want to add on that?

Gregory D. Smith - The Boeing Co.

Yeah, I guess just your question specifically on the business case. NPV, return on invested capital, I'd say very traditional way to look at a business case, but as Dennis said, not just looking at the contract quantity, but looking at the broader market opportunities and what it would take to win, and obviously, stressing that, and looking at that through various lenses to ensure that we have what we would – what we expect from a net present value perspective and a return on invested capital. So I'd say kind of multi-dimensional about how we're looking at it and then how we look at the risks associated with it but look, as far as the two platforms go, it's obvious that we have been spending a lot of time and energy and expertise from across the company to have something such as T-X that's flying that made its first flight in 2016 and as Dennis said, 71 flights under its belt, and then MQ-25 at the same time, things like doing an engine run in 2017. So we've really tried to work hard to leverage the enterprise, the model-based engineering that Dennis talked about and the productivity and try to de-risk these the best we can and bring purpose-built and purpose-designed platforms to the war fighter that I think are clearly game-changing and are going to add value to our customer and to our war fighter and to our shareholders.

Dennis A. Muilenburg - The Boeing Co.

Further to Greg's point, you see our unique ability across our commercial and defense businesses to share and replicate and build these technologies, so these advanced design and manufacturing capabilities that we're maturing on programs like the 777X, are able to apply to new defense programs, those lessons learned applied back to our commercial business so there's tremendous synergy there that I think is unique to our company.

Carter Copeland - Melius Research LLC

Thanks for the color, guys.

Dennis A. Muilenburg - The Boeing Co.

You're welcome.

Operator

Next question we'll go to Rob Spingarn with Credit Suisse. Please go ahead.

Robert M. Spingarn - Credit Suisse Securities ([USA](#)) LLC

Hey, good morning.

Dennis A. Muilenburg - The Boeing Co.

Hey, Rob.

Robert M. Spingarn - Credit Suisse Securities ([USA](#)) LLC

At the risk of staying on the topic, I want to just ask for clarification. So Dennis, you said you've already made these investments in the quarter and you have the two prototype T-X aircraft but I took from Greg's comments that most of these investments are planned and I'm taking that as from a cash perspective and so I wanted to ask you if they are truly ring-fenced or is there potential for investment creep, kind of like with Tanker? And then the last part of this question is since you clearly saw these opportunities differently than your competitor, can you elaborate more specifically a bit about the commercial market or foreign military market opportunity? Who's going to take up the other 80% of the targeted production for example and 90% of the sustainment?

Dennis A. Muilenburg - The Boeing Co.

I'll answer the second part of that, Rob, but Greg, why don't you take a cut at the first part and in particular how we've ring-fenced this and how the investments play out.

Gregory D. Smith - The Boeing Co.

Yeah, absolutely. Yeah. And you had it right, Rob, obviously from an accounting perspective we've recognized the costs associated with this effort, but from a cash flow perspective as I was talking a little earlier, you'll see a profile that'll go out over that between the two of them, the kind of 2022 to 2024 timeframe so all of that kind of modeled through that period and obviously, I'll let Dennis talk a little more on the de-risking but we've really tried to get out in front of that and that's the investments we have made to get these products to the state that they're in today.

And there's a big differentiator there obviously when you got two airplanes flying that have been flying since 2016 and have 71 test flights, it's not coming off a piece of paper to move into development and into production so it certainly minimizes the risk profile going forward. And MQ, again, we've done a lot of – between engine runs and ground taxi tests and deck handling trials, things like that, and invested in some labs and tried again to de-risk it.

So it's a different risk profile than you've seen in some of the other development programs and I try not to repeat too much of what Dennis said, but we're leveraging the best of Boeing and bring it in a selective way to these campaigns, so this is the approach we took on these, because we saw the long-term value proposition here and it strategically fit into what we had laid out as far as where we want to play today and going forward, and we selectively lean forward into these two and we think they're going to be very valuable franchises for all our stakeholders.

Dennis A. Muilenburg - The Boeing Co.

And then, Rob, further to that value point so that the broader marketplace here certainly initially with the U.S. Air Force and training capabilities and take a look at today's T-38 Talon fleet that will be replaced by this airplane. So the opportunity for growth in the U.S. training fleet is substantial and as you know, our Air Force's training needs are significant and so T-X Trainer is well placed to meet that capability.

We've also purpose-built, purpose-designed the airplane so that it can also be applied to other international customers who also have training needs and as you well know, the U.S. Air Force tends to lead the globe in terms of training capabilities and so international customers and allies will very typically align to the same product lines, and we've already had a number of inquiries from other customers around the globe on the back side of the T-X award.

Further to that, we purpose-designed this airplane to also be able to be modified to be a light attack fighter aircraft, again to support global markets and if you look at the cumulative market space in the U.S. and around the globe, we see T-X as a market for about 2,600 aircraft, in addition to ground-based trainers and other support services. And if you look at all of that as a composite across T-X and MQ-25, very realistically, this is a \$60 billion-sized marketplace so that gives you a sense of why this is a good investment.

Robert M. Spingarn - Credit Suisse Securities ([USA](#)) LLC

Yeah. That's very helpful market size, thank you.

Dennis A. Muilenburg - The Boeing Co.

You bet.

Operator

Our next question is from David Strauss with Barclays. Please go ahead.

David Strauss - Barclays Capital, Inc.

Thanks, good morning.

Gregory D. Smith - The Boeing Co.

Good morning.

Dennis A. Muilenburg - The Boeing Co.

Hey, good morning.

David Strauss - Barclays Capital, Inc.

Wanted to follow-up on the 737, looking for some additional color there. Dennis, can you give any sort of quantification on the number of unfinished jobs today versus a month or so ago, or the progress you're making there and are the airplanes rolling off the line today, do they have any unfinished jobs or are they rolling off the line clean at this point?

Dennis A. Muilenburg - The Boeing Co.

Yeah, we're continuing to ramp-up on our recovery plan. If I look at every element of the recovery factors, flow-through the factories, jobs that are completed in position, if I take a look at jobs that travel between stations, jobs behind schedule, airplanes on the ramp, supply chain health, we're watching things like part shortages in the factory. Across that entire set of

metrics they're all trending in right direction and while we're not complete with the recovery yet, we have made substantial progress over the last couple of months and the best indicator of that frankly is airplane deliveries, and you saw the 61 aircraft delivered in September and as I said, we expect for the fourth quarter deliveries, in total will be above the 52 a month production rate that we're at, so we're continuing to work off the inventory of aircraft that have been on the ramp outside of the factory. More and more, we're seeing airplanes being completed in place in the factory and while we're not done, all of the trends are headed in the right direction, just to give you a sense of how it's going. And we're going to stay very, very focused on it and get that wrapped up, get the production line back to full health and as I said, we're committed to meeting our year-end overall delivery guidance.

Operator

Next question is from Cai von Rumohr with Cowen & Co. Please go ahead.

Cai von Rumohr - Cowen & Co. LLC

Yes, thank you very much. So you took your R&D guide down by \$200 million and yet R&D was a lot lower than I think most of us expected in the third quarter and to get to even your lower number, R&D has to ramp-up sequentially by close to \$300 million. First, is that a conservative estimate so that that has some more opportunity and what does that imply for the R&D run rate corporate-wide next year given you're considering the NMA?

Gregory D. Smith - The Boeing Co.

Yeah, the run rate expectations going into next year, Cai, haven't changed, but there's certainly some timing from quarter-to-quarter just between the transition of 777X and some of the MAX spending and then just some of the other projects we have in place, so I wouldn't read too much more into that other than some timing.

As far as kind of broader, I'll say, kind of at a high-level R&D spend to revenue, still kind of that 3.8%, 3.9% is still what we see going forward, taking all of what we talked about into consideration. So think of quarter-over-quarter here just more timing between programs.

Cai von Rumohr - Cowen & Co. LLC

Thank you.

Gregory D. Smith - The Boeing Co.

You're welcome.

Dennis A. Muilenburg - The Boeing Co.

Thanks, Cai.

Operator

Next question is from Myles Walton with UBS. Please go ahead.

Myles Alexander Walton - UBS

Thanks, good morning.

Dennis A. Muilenburg - The Boeing Co.

Morning, Myles.

Myles Alexander Walton - UBS

I was wondering if we can we talk about the BCA margins and the kind of underlying margins you've seen over the last couple quarters, what you're looking for in the fourth quarter and Dennis, it looks that mid-teens margin target is going to arrive a year early in 2019. Greg, is there any pushback you're going to give me as a conservative CFO to tell me that's not going to happen?

Dennis A. Muilenburg - The Boeing Co.

Hey, Myles, first of all, thank you for the feedback there. You do see the progress in our margin performance and as we said, we're very intent and focused on that, and strong performance by our Commercial Airplane team in the quarter. There are a number of items behind that, but it reflects the overall drive on productivity and performance across our product lines and the investments we're making there are showing results, and we laid in a long-term plan to make this a mid-teens margin business. We are making great progress on that journey and we remain very committed to that.

As we said before, not only getting there by the end of the decade but then beyond that, continuing to grow our margins and as Greg mentioned in his comments, we see this as a long-term year-over-year cash growth and margin growth business. Greg, do you want to add some color to Myles' point there?

Gregory D. Smith - The Boeing Co.

Yeah,

Myles Alexander Walton - UBS

Talk me off the ledge here?

Gregory D. Smith - The Boeing Co.

I'm sorry?

Myles Alexander Walton - UBS

You want to talk me down?

Gregory D. Smith - The Boeing Co.

Well, I'm going to give you the facts. Look, there's been a lot of effort been going on program-to-program. In particular on the 787 of improving the margin profile and we talked a lot about it. The mix, supplier step-down and then just our own productivity and sharing those best practices across the company, and everybody's on one score in the company and that's one of the big enablers. So, it's first and foremost on everybody's mind of how do you leverage these best practices and bring them to the program. So you're seeing some of that.

You're seeing a lot of discipline on the spending across-the-board, that is obviously very cash focused, just like the program margins are, but you are seeing some ebbs and flows quarter-to-quarter. So you're going to see a little more period expense in the fourth quarter. So we had some favorable timing in third quarter and you'll see some of that come back in the fourth quarter and obviously we're keeping a mindful eye on some of the things that Dennis talked about and I did as far as what we're watching between now and the end of the year.

In particular, 737 delivery profile, so that recovery plan is something that we're focused on daily, and in particular, around our engine recovery and so we're taking that into consideration as well. So lots of moving pieces, but net-net, the objective hasn't changed. You're seeing progress towards that objective and you're going to see that continue.

Myles Alexander Walton - UBS

Thanks.

Operator

Next we'll go to Sheila Kahyaoglu with Jefferies. Please go ahead.

Sheila Kahyaoglu - Jefferies LLC

Hey, good morning and thank you for the time.

Dennis A. Muilenburg - The Boeing Co.

Hi, Sheila.

Sheila Kahyaoglu - Jefferies LLC

Hi. Just on services, the margins compressed a little bit. Can we talk about the implied recovery in Q4 and maybe what the some of the period costs were associated with that and how we think about the profitability profile of that business as KLX plays into it?

Dennis A. Muilenburg - The Boeing Co.

Yeah, Sheila, first of all, overall services business, we're very focused on growing profitably, so growing both top and bottom line. You'll see that year-to-date, as we said, about 12% growth in our services top line, so our growth strategy is working. You do see some variability on bottom line performance in margin quarter-to-quarter. We did make some targeted investments in the third quarter that you see in the local margins there, but you can see we haven't changed our year-end guidance for BGS margin. So we still expect this to be a robust-growing business both top and bottom line. And Greg...?

Gregory D. Smith - The Boeing Co.

Yeah, a lot of initiatives in place here as well. Obviously bringing the two together and really looking for efficiencies across the board. A lot of effort going on there and obviously, the go-to-market, but there's thousands and thousands of contracts, obviously in this business, so as I think I mentioned on prior calls, you're going to see some ebb and flow from quarter-over-quarter just by mix alone but the overall objective long-term, get outside of quarters here and look kind of year-over-year, is to continue to grow the margins and deliver something to our customers that's really differentiating and that's why we brought these businesses together and I think you're seeing some of that starting in our order book and in our backlog, and it's bringing the best of Boeing to the services elements just like we do on the platform. But again, that objective of being the most efficient – delivering those services in the most efficient way delivers value back to us to reinvest and to our shareholder and back to our customer, so that objective has not changed at all.

Sheila Kahyaoglu - Jefferies LLC

Thanks.

Operator

Ladies and gentlemen, that will conclude the analyst question-and-answer session. I will now return you to the Boeing Company for introductory remarks by Ms. Anne Toulouse, Interim Vice President of Communications. Ms. Toulouse, please go ahead.

Anne C. Toulouse - The Boeing Co.

Thank you and good morning. We will continue the call with media questions for Dennis and Greg. If you have any questions following this part of the session, please call our Media Relations team at (312) 544-2002. Operator, we are now ready for that first question. In the interest of time we ask that you limit everyone to just one question please.

Operator

Thank you and we'll go to Julie Johnsson with Bloomberg. Please go ahead.

Julie Johnsson - Bloomberg LP

Hi, good morning, everyone.

Dennis A. Muilenburg - The Boeing Co.

Morning, Julie.

Julie Johnsson - Bloomberg LP

Greg, you'd mentioned that Boeing now selectively is taking sort of longer-term market opportunity into account when it looks at a business case for products like T-X and MQ-25. Does that mindset and that sort of strategic outlook carry over to the NMA? And just sort of curious also if it does, how you go about ring fencing risk and costs.

Gregory D. Smith - The Boeing Co.

Yeah, I'd actually say the MQ and T-X are really more looking at it like we typically do and you would on a commercial-type opportunity, so it's really the reverse of that. Having said that, there's a lot of things that we're doing on these programs that Dennis indicated that we're looking at about how does that make us more efficient and more productive on the NMA, and how does it de-risk the NMA business case. So this is where it really is bringing the best of Boeing together in really not reliving lessons, leveraging our investments and our lessons learned across the portfolio. So as we've had NMA teams, we've had 787 teams over on T-X. We've had T-X teams over on NMA and on 787, and we've had people like Mark Jenks, who was

obviously a key element on the 787, reviewing T-X. So it's really more again, looking through that commercial, I'd say pretty – I'd say kind of standard business case over that total market opportunity and what's it take to win in that market and how do you competitively differentiate yourself and bring value back to all the stakeholders and really look for any opportunities to de-risk and leverage again, some of the lessons learned from across the company.

Operator

Our next question is from Andrew Tangel with The Wall Street Journal. Please go ahead.

Andrew Tangel - The Wall Street Journal

Hi there, good morning.

Dennis A. Muilenburg - The Boeing Co.

Morning, Andrew.

Gregory D. Smith - The Boeing Co.

Morning.

Andrew Tangel - The Wall Street Journal

You all talk about the strong state of the airline business and industry overall, strong profits in passenger and cargo growth. Recently, some low-cost airlines have ceased operations and there are some predictions that some other carriers may not make it through the winter as they face higher fuel bills and labor cost. How concerning is that to Boeing, given how much new demand for commercial planes you've all been seeing from low-cost carriers around the world and how much exposure do you have to the order book and how much exposure do you see to demand for commercial aircrafts at least in the short-term?

Dennis A. Muilenburg - The Boeing Co.

Andrew, to your point, while we do see some variability amongst the broad range of airline customers that we have, I would say as a composite, we're continuing to see airline profitability trending in a good direction. The airline industry is very healthy overall, across all of the different types of business models including low-cost carriers. And so while there have been some selective challenges within the industry, as a composite it's a strong and healthy airline industry. It's being well-managed. And part of it is the fact

we're able to provide our airline customers with advanced capability technologies that are helping them drive profitability and further growth.

So we keep an eye on that, but we feel very confident in the overall health of the airline industry, but more broadly, the health of the macro passenger traffic market. Again, year-to-date, 6.8% growth in passenger traffic. It continues to significantly outpace global GDP. That is a fundamental difference from almost any other big industrial sector, and the growing middle-class population around the world is really the driving factor behind that. As I said, 150 million new passengers every year in Asia; people that fly for the first time. Less than 20% of the world's population has yet taken a single flight. So when you think about the macro population trends around the world, that's fueling growth and that's going to be good for the airlines, it's going to be good for us as airplane producers, and if you look at the overall strength of our current market outlook, that 43,000 new airplanes over the next 20 years, we remain very confident in that. In fact we continue to see upward pressure on our market assessment.

Operator

Next question is from Eric Johnson with Reuters News. Please go ahead.

Eric M. Johnson - Thomson Reuters

Thank you, guys. Appreciate the opportunity. Dennis, I wanted to ask about the charge on T-X and if it is in some way an effort to sort of front load the pain and anticipate a situation similar to what is happening with KC-46. In other words is it inevitable that it may go off course?

Dennis A. Muilenburg - The Boeing Co.

No, Eric, it's dramatically different than that. These, as Greg said, these are planned, purposeful investments up front with a commercial business case wrapped around them. And in particular, on T-X, we have one, de-risked the program with investments that are behind us, having built those two production-ready flying aircraft. That reduces risk in the development program which makes it significantly different than Tanker. But if you look at the forward investments, where we're taking the charges in this quarter, those apply to the future production program and the business case around those, because we see a production opportunity that is well beyond the current contract, the initial contract. So think of these as investments that enable a production run that begins in the early 2020s and will extend literally for decades.

So it's fundamentally a different approach. It's making a commercial-like investment in a defense program where we have confidence that it will run

for decades both in terms of production line and support and services. Investments behind us are the ones that have de-risked the program and also make it dramatically different than Tanker.

Anne C. Toulouse - The Boeing Co.

Operator, we have time for one last question.

Operator

That will be from Marcus Weisgerber with Defense One. Please go ahead.

Marcus Weisgerber - Defense One

Hi, good morning and thanks for taking my question. Earlier this month the White House released an assessment of the defense-industrial base which warns of excessive Chinese-made content in American weapons. And in light of that the Pentagon is planning a legislative package and they are saying they plan to invest in U.S. areas of the supply chain to reduce that Chinese dependence. So my question is does the report make you look differently or reassess any of your suppliers and do you have any indication if Boeing supply chain will be getting any of those pentagon investments?

Dennis A. Muilenburg - The Boeing Co.

Yeah, we are very much connected into the defense-industrial base policies and plans, working hand-in-hand with the Pentagon and our U.S. customers. We, as a matter of normal business, have great visibility into our Supply Chain and all of the export/import rules and regulations that get applied to that are built in and are something that's built into how we do business every day.

So as we look at deep supply chain capabilities and supply sources, this is not new to us. In fact these are things that we completely understand and govern our business today, and we'll be continuing to work jointly with the Defense Department as we define sources for the future and ensuring that we have, I'll say the diversity of supplier sources that we need here in the U.S. to satisfy our defense customer needs.

I don't see this as anything that's going to substantially change our business model or our Supply Chain going forward. It will just add additional discipline to ensure the security of that Supply Chain.