25-Jan-2023

The Boeing Co. (BA)

Q4 2022 Earnings Call
CORPORATE PARTICIPANTS

Matt Welch  
Vice President-Investor Relations, The Boeing Co.

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Brian J. West  
Chief Financial Officer & Executive Vice President-Finance, The Boeing Co.

OTHER PARTICIPANTS

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

Douglas S. Hamed  
Analyst, Sanford C. Bernstein & Co. LLC

Noah Poponak  
Analyst, Goldman Sachs & Co. LLC

Myles Walton  
Analyst, Wolfe Research LLC

Kristine Tan Liwag  
Analyst, Morgan Stanley & Co. LLC

Seth M. Seifman  
Analyst, JPMorgan Securities LLC

Cai von Rumohr  
Analyst, Cowen Inc

David Strauss  
Analyst, Barclays Capital, Inc.

Jason Gursky  
Analyst, Citi

Ronald J. Epstein  
Analyst, BofA Securities, Inc.

Richard Safran  
Analyst, Seaport Research Partners

Sheila Kahyaoglu  
Analyst, Jefferies LLC
MANAGEMENT DISCUSSION SECTION

Operator: Thank you for standing by. Good day, everyone, and welcome to The Boeing Company's Fourth Quarter 2022 Earnings Conference Call. Today's call is being recorded. The management discussion and slide presentation plus the analyst question-and-answer session are being broadcast live over the internet. [Operator Instructions]

At this time, for opening remarks and introductions, I'm turning the call over to Mr. Matt Welch, Vice President of Investor Relations for The Boeing Company. Mr. Welch, please go ahead.

Matt Welch
Vice President-Investor Relations, The Boeing Co.

Thank you and good morning. Welcome to Boeing's Fourth Quarter 2022 Earnings Call. I am Matt Welch and with me today are Dave Calhoun, Boeing's President and Chief Executive Officer; and Brian West, Boeing's Executive Vice President and Chief Financial Officer. And as a reminder, you can follow today's broadcast and slide presentation at boeing.com.

As always, detailed financial information is included in today's press release. Furthermore, projections, estimates and goals included in today's discussion involve risks, including those described in our SEC filings and in the forward-looking statement disclaimer at the end of the web presentation. In addition, we refer you to our earnings release and presentation for disclosures and reconciliation of certain non-GAAP measures.

Now, I will turn the call over to Dave Calhoun.

David L. Calhoun
President, Chief Executive Officer & Director, The Boeing Co.

Thanks, Matt. Good morning. Thanks to all of you for joining us this morning. Last time we were together was the 2nd of November where we had a chance for the first time at least in my three-year tenure to talk about guidance and expectations for the years ahead.

The good news is we had a very solid fourth quarter, a quarter that in my view puts us in good stead to step forward and meet the guidance that we have delivered to all of you. Not only have we taken big steps to reduce the risks that of course we'd faced over the last three years, but importantly we're well on our way to restoring the operational and financial strength that we got used to prior to our MAX moment.

Challenges remain. We have a lot to do, but overall we're feeling pretty good about the way we closed 2022 and we're well-positioned for 2023 and beyond. Our key metric as everybody knows is free cash flow. Importantly, we were able to generate more than $3 billion in free cash flow in the fourth quarter driven by the progress in our performance and importantly, continued strong demand and this helped us generate positive full year cash flow for the first time since 2018, a very important turnaround metric for us.

Several key milestones and events that I'd like to highlight. Let's start with the BCA deliveries, which I know everyone tracks. 2022 total was 480 with 69 deliveries in December. Notably the 737 deliveries we had 387 that exceeded our target of 375 and it included 31 787s as we unwound inventory and delivered from the production line following the important return-to-delivery over the course of the summer.
On the order front, and on the market side, we continue to see very strong demand across the portfolio. More than 800 net orders on the year driven by the 737 MAX and the 787. Highlighted most recently by the very historic deal with UAL, United Airlines, in December. In 2022 we sold 200-plus net wide-bodies, that's the most since 2018.

More broadly the 737 MAX team has made tremendous progress. Fleet is performing exceptionally well. Production is stabilizing, demand is strong. We delivered 1000-plus 737 MAXes in total now and since our return to service the fleet has surpassed 3 million flight hours. It's safe and it's the most reliable of the airplane fleets.

Production, we've gone from 0 to 31 a month and we're prioritizing stability which we have not yet achieved but we're on a steady course to do so, and orders more than 1,500 gross orders to-date. 737 MAX returning to service in China is another indication of this overall improvement in our business.

This month, of course, we all know that that occurred. We have more airplanes on the Tarmac in China to bring back into service just as we did here in the US before we began any deliveries of any sort and I'm not going to guess going forward when deliveries may or may not start. As everyone knows, in our guidance we had derisked for that possibility.

737 MAX 7 and 737 MAX 10, everybody knows we got our extension approved and attached the legislation at the end of the year. That was a very important moment. I'll remind everyone that that doesn't mean that these were certified. It simply means that the FAA and Boeing can follow the existing application and do that job and do it the right way, so we feel very, very good about having derisked that moment as well. I will also want to point out every argument we made on behalf of that extension related to safety, the premise for our chosen course and the application that we filed was safety first and it will always be safety first.

Boeing Defense, our SLS launch. This was an enormous emotional upper for our company and for our team broadly. The Artemis I launch in November which was powered by the SLS rocket was more than a little inspiring, and I'd like to congratulate the NASA team broadly for the succession of the Starliner mission. It's an incredible success, incredible and it went beautifully and almost flawlessly every step of the way. So again, a significant accomplishment for space travel in general. But that rocket again just shows what Boeing is capable of, when we put our minds to it, we follow our disciplines, we stay patient and ultimately prove to the world that there's more to do in space.

Boeing Global Services, another terrific story. It is simply following the recovery of our industry in general and everywhere in the world, so we had a great quarter. Pretty much across-the-board. We continue to grow. We continue to invest, so that we are prepared to support our customers as they bring their airlines back, back to where they were before COVID.

So we'll reaffirm our guidance and with this progress, which we feel good about both the financial and the operational outlook that we shared with you in November, and that includes the cash flow, the delivery ranges that we set for 2023 as well as for the 2025 and 2026 timeframe.

Our realities are still the same, a difficult, difficult supply chain, and while average deliveries met our objectives, we continue to face a few too many stoppages in our lines simply so that we do not travel work as we run into supply chain shortfalls, so those stoppages, while they are coming down, are not where they need to be as we think about stable rates going forward.
I will not in this discussion and/or in Q&A highlight any one supplier within the supply chain. Know that we’re working with all of them. There’s a significant amount of transparency in those discussions between them, between us and everybody is focused on the rate improvements that we have outlined to all of you.

All things considered and reflecting on these last few years, we’re feeling pretty good about where we stand heading into this year. Demand very strong. Portfolio very well-positioned. We have faced plenty of tests in a number of orders all around the world with some of our toughest customers and we know this portfolio is well-positioned.

We have a robust pipeline of development programs, including broadly across our Defense business and we’re innovating new capabilities that prepare us for the next generation of products. One of the more significant achievements was recently announced by NASA and their Sustainable Flight Demonstrator Contract.

This is a set of technologies that’s intending to cut fuel emissions by up to 30%. Those are the kind of standards that in our view are required to ultimately launch a new Commercial Airplane, wrapped in sustainability. We’ve de-risked major aspects of the business and our performance is improving. We’re embedding Lean across our operations to drive productivity, ultimately to achieve the kinds of targets that we’ve set out.

We got work to do, but we’re feeling really good about our progress. We’re proud of our team, and we’re confident in the future.

With that, I’ll turn it over to Brian West.

---

**Brian J. West**

Chief Financial Officer & Executive Vice President-Finance, The Boeing Co.

Great. Thanks, Dave, and good morning, everyone. Let's go to the next page and cover the fourth quarter financial results.

Revenue in the fourth quarter came in at $20 billion. That's up 35% year-over-year driven by higher Commercial volume. Core operating margin was negative 3.3% and the core loss per-share was $1.75. Both the margin and the loss per share were significantly better than prior year and impacted in the quarter by period expenses and abnormal costs.

From a free cash flow perspective, our primary financial metric was positive $3.1 billion for the quarter, up significantly versus the prior year on higher deliveries and strong order activity and up sequentially versus the prior quarter and a bit better than our original estimate.

I'll take a minute to go through each of the business units. Moving on to the next page with BCA. BCA revenue in the fourth quarter was $9.2 billion, that's up 94% year-over-year driven by higher 787 and 737 deliveries, partially offset by 787 customer considerations. On the operating margins, they were negative 6.8% in the quarter, [ph] signaling (00:11:25) better than a year ago and in the quarter driven by abnormal costs and higher period expenses, including higher R&D spending.

I'll take a minute to go through a few highlights on the major programs, starting with the 737. We had 110 deliveries in the fourth quarter and 387 for the full year, slightly ahead of our estimate. We ended the year with 250 MAX airplanes in inventory, 30 of which were -7 and -10s and we had 138 for customers in China. We do expect the monthly deliveries from inventory to slow slightly as fewer airplanes will be available combined with
some impact from the -7 and -10 builds. We still expect most inventoried airplanes will be delivered by the end of 2024.

On the 787, we had 22 deliveries in the fourth quarter and 31 for the full year. We ended the year with 100 airplanes in inventory, most of which will be delivered by the end of 2024. We booked $315 million of abnormal costs in the quarter taking the total to-date to just $1.7 billion. We’re increasing the abnormal accounting estimate by about $600 million to roughly $2.8 billion in total as we will be under the five per month production rate a bit longer than expected due to a supplier constraint that is temporarily slowed production.

We still expect to hit five per month this year. Our total year delivery guidance of 70 to 80 is unchanged and there’s no change to 2023 cash flows. 787 orders were strong in the quarter, and we’ve added 100 airplanes to the accounting quantity, which increases our GAAP program margin.

On the 777X, the program timeline is holding and efforts are ongoing. Abnormal costs were $112 million in the quarter and there’s no change to the $1.5 billion total estimate. On the customer settlement front, we continue to make good progress resolving contractual issues on the three big programs. The 737 MAX is near the finish line with a vast majority of customers settled. Of the original $9.3 billion that is set aside, there's only 3% left.

On the 777X, there are even fewer customers and discussions are ongoing. Keep in mind that the revenue and cash impact of these settlements will be over several years and all contemplated in both the near- and long-term financial guidance.

Finally, on the orders front for BCA, we booked 376 orders in the quarter and have over 4,500 airplanes in backlog valued at $330 billion.

Moving on to the next page, I'll cover BDS. BDS revenues in the fourth quarter were $6.2 billion, up 5% year-over-year. Operating margins were 1.8% and if you include services, defense margins would be 200 basis points higher to 4%. There are two things impacting BDS margins in the quarter. First, we felt the operational impact of supply chain constraints and labor instability. Second, we saw adverse timing of certain cost accrual true-ups, including higher pension costs that flowed through the P&L in the quarter. The big focus for the BDS leadership team to improve execution stability both in the factory and in the supply base.

Some additional highlights as Dave mentioned we’re very proud of Artemis I successful mission to the moon last November and we delivered 45 aircraft in the quarter, including the first P-8 to New Zealand as well as three satellites including the first two O3b mPOWER units. We received $7 billion in orders during the quarter, including a contract for two KC-46A tankers from Japan and an award for 12 Chinook helicopters from the Egyptian Air Force. The BDS backlog is at $54 billion.

Moving on to the next page, Global Services. BGS had another strong quarter primarily driven by our parts and distribution business. BGS revenue was $4.6 billion, up 6% year-over-year and operating margin was 13.9%. Commercial volume was very strong partially offset by some softness in the government space. We received $5 billion in orders during the quarter including an F-15 depo support order for the U.S. Air Force and we opened up the Germany distribution center. The BGS backlog is $19 billion.
Moving on to the full-year, the next page. Full-year financial results, revenue came in at $66.6 billion. That's 5% up year-over-year driven by higher commercial volume offset by lower defense revenue. Core operating margin was negative 7% and the core loss per share was over $11, both a bit worse reflecting the impact of defense charges taken earlier in the year. And our free cash flow, we generated $2.3 billion positive free cash flow in the year up significantly from the prior year driven by higher deliveries and order activity.

Moving on to the next page. I just want to put that $2.3 billion of free cash flow in perspective. As you can see from the chart on the left, we've made a lot of progress over the last three years. 2020 was a usage of $20 billion of cash, 2021 improved but was still a usage of $4 billion of cash, and 2022, $2.3 billion positive. As Dave mentioned, a lot of work that's been done and more work to do. The team is pretty proud to get back to positive territory. It's been the 737 return to service and the deliveries that are ramping. It's been the 787 that's been restarted. It's been the commercial market recovery that's been a benefit along the way with a very strong order book reflecting our customer's confidence in our product lineup, and of course our service business has held up incredibly well. It was a good exit to 2022 and we expect momentum to continue for 2023.

Moving on to the next page. Cash and debt. On the cash and marketable securities front, we ended the year with $17.2 billion, up $3 billion versus the third quarter, and we had $12 billion of revolving credit facilities, all of which remain undrawn. On the debt side, we finished the year with $57 billion in debt and as a reminder our investment grade credit rating continues to be a top priority. Our liquidity position is strong and we're very comfortable satisfying near-term maturities and the overall plan continues to be deliver airplanes, generate cash, pay down debt.

Moving on to the next page, 2023. Our financial outlook for 2023 is unchanged from what we shared in November. Operating cash flow in total will be between $4.5 billion and $6.5 billion. We'll reinvest about $1.5 billion in CapEx for a net free cash flow of $3 billion to $5 billion in 2023. As we start the year overall demand remains strong. Global passenger traffic increased almost 70% in 2022 and we're at 75% of pre-pandemic levels globally. And if we take out China, that number goes to over 90%. So demand is pretty robust and reflective of our order book. Our priority continues to be execution stability and while we still see some disruptions in the factory and into the supply chain, we're hard at work with our partners to address these issues and ultimately focused on meeting our customer commitments.

On the segment operating cash flow, same numbers as November. BDS, we expect to be a usage of between $0.5 billion and $1 billion of cash. BGS will generate between $2.5 billion and $3 billion. And BCA will generate between $2.5 billion and $3.5 billion. On the commercial delivery front, 737 deliveries are unchanged, and between 400 and 450 airplanes. 787 deliveries are unchanged, between 70 and 80 airplanes. And we've added a couple items on the expense front. We expect R&D for 2023 to come in at about $3.2 billion versus $2.9 billion in 2022. The vast majority of this increase will be in BCA.

We also have unallocated, eliminations and other, which will be relatively in line with 2022 at $1.6 billion. One important thing to note is on the quarterly phasing, it will look very similar to last year as both deliveries and the financials will improve throughout the course of the year. On the first quarter specifically, EPS will be an improvement over 4Q 2022 but remain in a loss position, and cash will still be a usage in the first quarter although an improvement from the first quarter of 2022. Overall, we're squarely focused on free cash flow and so far so good as we enter 2023.

Moving on to the last page, 2025 to 2026 long-term guidance. Same page we showed you in November, $10 billion of free cash flow is still our objective. And it is important to note that margins and EPS are important, but they will be uneven over the next two years, as we unwind the BCA inventory, we put the BCA abnormal cost...
behind us, and we get the BDS margins back on track to its normal trajectory. We're still confident that this plan is underpinned by things we largely control.

One, productivity; two, the commercial rate ramp; three, services growth; and four, the transition of key defense programs from development to production. Overall, we're as confident today as we were back in November, and we feel good about the way 2023 is starting.

With that, I'll turn it over to Dave for any final comments.

David L. Calhoun
President, Chief Executive Officer & Director, The Boeing Co.

Yeah. I think, Brian, the numbers speak for themselves. We couldn't be more pleased with the way the year closed with very few surprises. We're heading into the year. We know the supply chain is going to be tough and constrained but we also believe that we control that environment and it's our job to get ahead of it. So thank you.

We'll be happy to take some questions.

QUESTION AND ANSWER SECTION

Operator: [Operator Instructions] As a reminder, in the interest of time, we are asking that you limit yourself to one single-part question. Our first question will be from Peter Arment with Baird. Please go ahead.

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

Yeah, good morning, Dave and Brian.

Brian J. West
Chief Financial Officer & Executive Vice President-Finance, The Boeing Co.

Hey, Peter.

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

Hey. So congrats on the progress in deliveries in the fourth quarter and the free cash flow generation and you reiterated obviously the long-term free cash flow target to $10 billion in mid-decade and $3 billion to $5 billion in 2023. So Brian I guess on 2023, can you just maybe talk around confidence levels around that expected free cash flow target specifically at BCA and BDS, like kind of what are the key risks to call out. I assume it's supply chain around the guidance ranges.

And then just Dave unrelated question, but can you comment broadly on the pick up in MAX flights in China? Our checks showed 220 revenue flights that are scheduled in February and there's already 60 flights have occurred this month, so clearly there's MAX activity that's picking up in China. Thanks.

David L. Calhoun
President, Chief Executive Officer & Director, The Boeing Co.
Yeah, Peter, why don't I start with China. Your numbers are within the range of my numbers. That is what's going on. I think as everybody knows, the opening up of China is going to be a major event in aviation, and the aviation industry was already stressed in terms of demand broadly in the world. So this is a serious bump for everybody but most importantly, within China, they need the MAX to fly, to satisfy those demands. So we were going to do there what we do here in the US and focus on the airplanes they have on the tarmac today, which is close to 100 airplanes. The readiness of each and every one of them, and ultimately they're getting into full revenue service.

So for six months I think that's the course for all of us to stay focused on. And then we're going to take up the question of deliveries, and is there a moment in time where that begins to come back. I don't want to predict that date, Peter, but the odds go up every day our MAX gets back into service. And the airplanes that we have on our tarmacs, hopefully, we get ready and deliver to our customers. So I think there's a reason to be optimistic. We will not change guidance and/or predict those outcomes until they actually occur.

Brian J. West  
Chief Financial Officer & Executive Vice President-Finance, The Boeing Co.

And Peter, on the cash flow, the $3 billion to $5 billion, again we feel very confident with that range. The key underpinnings will be the delivery that we talked about. The 737, at the low-end assumes that we don't get much better through the course of 2023 than we did this past year, which is low-30s for the whole year.

At the high-end, it actually says we do low-30s first half and then low-40s second half. So I think that all of that is within the mix, as you recall, we had a big December. One caution is that December was kind of over 50 on the MAXs, but October was not quite that high, and that's an indication that we're still not stable, still bumpy, but we still feel good about the overall trajectory in terms of being able to hit the 400 to 450 airplanes.

On the 787 similarly, we feel good about where we landed and then where we're headed to hit the 70 to 80 airplanes, which underpins pretty much most of the cash flow for BCA those two product lines. And then BDS, no change to what we thought, things plan out pretty much as we expected.

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

Appreciate the color. Thanks.

Operator: And next we'll go to Doug Hamed with Bernstein. Please go ahead.

Douglas S. Hamed  
Analyst, Sanford C. Bernstein & Co. LLC

Thank you. Good morning.

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Hi, Doug.

Douglas S. Hamed  
Analyst, Sanford C. Bernstein & Co. LLC

When you look at the MAX right now, the good news is you don't have a demand problem, and as you guide to 31 airplanes a month of production in 2023, and our assumption is that if you had engine deliveries higher you could
move up from there given that you're facilitated and staffed for 38 airplanes. And if you look at the 2025 or 2026 timeframe, when you are guiding to 50 airplanes a month, and you were once at 57 airplanes a month, so that would not be new territory, so what I'm trying to get at it is when you look at these two-years, clearly, there are supplier issues in 2023, but is it feasible that you could see that production rate go higher. And if so, what would you want to see? And I'd look at 2023 and 2025 differently since 2025 I'm assuming we would be out from under a lot of these supplier issues.

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Yeah, Doug. Again, now I don't want to conjecture too much, but the two essential things to achieve that kind of objective. Number one, are we facilitated at that kind of rate, and the answer is, as we progress through this year, will be, yes. Number two, and by far the more challenging is, are we going to be stable month-to-month, quarter-to-quarter, predictable where the supply chain and the buffers that we put in place with respect to that supply chain are adequate.

That's a harder, tougher putt. I think it's going to take us all year to ultimately demonstrate that stability can and will be achieved. And if I get to that, and I hope I do, we do, then I'll take on that conjecture, but for right now, we are just squarely focused on that question of stability. As Brian said, our fourth quarter was good. We finished well. We didn't have a lot of surprises in December. But if you look at the month-to-month in the quarter, you can't be happy with that. We had just a few too many stoppages along the way. As you know our philosophy is we're not going to travel anything anymore, we're not going to compound issues that occur, and we're going to maintain that philosophy. So watch the month-to-month, that's going to tell you a lot about our willingness to consider the rates you're talking about.

Douglas S. Hamed  
Analyst, Sanford C. Bernstein & Co. LLC

And is that true when you look out to the 2025 to 2026 timeframe, obviously there's a long way to go before we get there. How do you think about just flexibility given there may be a number of scenarios that could come out here in terms of production levels.

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Well, as I said, will we be facilitated to handle that kind of volume at that stage? Yes. We'll stay well ahead of that. And you'll see things that occur over this year that will demonstrate that. So that's the part of it, I'm not so worried about. Again, it's stability questions and then there will be a factor that will have to apply with respect to China. We're going to have to believe we're back, and we're back for good.

Douglas S. Hamed  
Analyst, Sanford C. Bernstein & Co. LLC

Okay. Great. Thank you.

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Yeah.

Operator: Our next question is from Noah Poponak with Goldman Sachs. Please go ahead.
Hey. Good morning, everyone.

Hey, Noah.

Good morning.

I wanted to ask about supply chain. Can you – I heard you, Dave, that you're not going to mention any specific supplier and I hear that and respect that, but if you could provide any more detail on what's happening on the 787. Is there a new quality control escape or is it just pure timing delays, visibility into that getting better? Any incremental detail there would be really helpful. And then what's the latest from the engine OEMs? Sounded a little better yesterday but what are you guys hearing?

Well, let me start with the latter, the engine discussion. Again, what I'm really happy with is the transparency with which we are planning for rates with our engine suppliers, and you know who they are, and predominantly one, and I'm feeling good about that. And we have plans to do it, I don't think any of us are yet at that high confidence moment on that, but we will. And that progression will occur over the course of the year when we are at high confidence then we're going to get to the kind of rates that are built into our guidance.

We've got a low-end and a higher end and we'll find out where we're going to fit on that, depending on it. But the transparency is amazing. No one is out-guessing each other. And because this market has been so strong, no one is second guessing the rates. Everybody knows these rates if we get to them, we'll achieve them and then we can continue to move forward. So there's a lot of good, but until we see it month-to-month and until we get to that high confidence moment, we're going to hold our production rate steady.

And, Brian, you're up-to-date on the 787 discussion.

Yeah. So on the 787, so the fourth quarter was our first real full quarter in a while of being able to deliver airplanes both from the factory which is still is at a low-rate and also from inventory, and it feels pretty good and as we go into 2023, remember the scope of work is pretty clear what we have to do in terms of reworking the inventoried airplanes. But remember, our suppliers have a part of that responsibility in their scope, so bringing the suppliers, the big suppliers along to make sure that they are conforming and they've got all the protocols in place to get that done on their end is something that we're working our way through.
It's going to take us a little bit longer than originally expected which is why we are going to shift out going to 5 airplanes per month a bit later in the year, but we still see 70 to 80 airplanes in the cards and so far so good. What you'll likely see is some good liquidation of the inventories that go through the year. And then obviously, ramp up the factory as we get deeper into the year, but net-net, the 70 to 80 airplanes we still feel good about.

**Operator:** Next question is from Myles Walton with Wolfe Research. Please go ahead.

**Myles Walton**  
*Analyst, Wolfe Research LLC*

Thanks. Good morning. Just wanted to clarify a couple things. One, Brian, I think you mentioned $600 million higher abnormal costs on the 787. Is that cash? Is that absorbed now in 2023 unchanged free cash flow guidance. And then also, for defense, if you could just touch on your margin profitability expectation and rough magnitude for 2023? Thanks.

**Brian J. West**  
*Chief Financial Officer & Executive Vice President-Finance, The Boeing Co.*

Sure. So in terms of the first question, the 787 abnormal. There is no cash impact. Part of that is just because part of that is just fixed cost absorption, but there's no change in the cash outlook. It's not significant in that regard so we're holding.

On the defense margins, so in the quarter as I mentioned, we had some bumped around from the supply chain constraint and some of the labor knock us in the fourth quarter as well as some of the timing of accruals that I mentioned. As we move our way into 2023, we clearly expect those margins to get better. It's not going to be all the way back to what normal might look like but it's going to be improve sequentially, and we feel pretty good about the lineup in terms of the product portfolio and as we remind you is that the products are performing incredibly well with the customers. So we feel good about the underlying base with BDS. Margins will get better, and we're positioned for that as we head into the year.

**Myles Walton**  
*Analyst, Wolfe Research LLC*

All right. Thank you.

**Operator:** Next, we'll go to Kristine Liwag with Morgan Stanley. Please go ahead.

**Kristine Tan Liwag**  
*Analyst, Morgan Stanley & Co. LLC*

Hey. Good morning, everyone.

**David L. Calhoun**  
*President, Chief Executive Officer & Director, The Boeing Co.*

Yeah. Hi, Kristine.

**Kristine Tan Liwag**  
*Analyst, Morgan Stanley & Co. LLC*

Dave, you mentioned the milestone order from United despite the macroeconomic uncertainty in the near- and medium-term, so when you look at COVID-19 now approaching the rearview mirror, China re-opening, I mean,
the demand for air travel has been pretty strong. Can you talk about what your customers are saying about potential new aircraft orders? Should we anticipate more airlines making landmark orders like United and could we see BCA at a positive book-to-bill for the year?

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Yeah, again, I always hesitate to forecast specific orders. I will say that we're involved in more big orders now than we've been in a long time. I think last year was a big indicator for folks that big orders are out there. I think the United one is in fact indicative, but Delta earlier. There's just, there are some big interests in aviation. I'd say the majority now outside the US as opposed to inside the US and we're considering some really big things, and we're in the midst of all of those.

So, yeah, I have a – I'm pretty optimistic. I'm not going to forecast numbers because that's never healthy, but I do think over the next couple of quarters, you'll see some big decisions made to both manufacturers and you'll see some new entrants into the aviation world that aim to make a real difference, and again, largely in the global markets.

Kristine Tan Liwag  
Analyst, Morgan Stanley & Co. LLC

Thanks, Dave, and if I could do a follow-up. With that environment that you describe, it sounds pretty robust. Can you describe the pricing environment for these orders and how they compared to pre-COVID levels?

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Yeah, well when you're in the midst of any one deal it feels ruthless, but if you really do balance it out and I guess, I'd credit both manufacturers. It's been pretty disciplined through this whole COVID moment and so you see very few reaches and sort of crazy things that are out of the norm and now, we're in sort of that supply chain constraint world where people simply want to get positions so that they know they have airplanes when the time comes.

Recessions don't seem to get in the way because remember, we're competing for deliveries out four and five years from now, so they're not really computing recession into that. So anyway, again, I feel good and I also, I'm going to guess that – because it's always a guess, that pricing will stay disciplined.

Kristine Tan Liwag  
Analyst, Morgan Stanley & Co. LLC

Thank you.

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Yes.

Operator: And next, we'll go to Seth Seifman with JPMorgan. Please go ahead.

Seth M. Seifman  
Analyst, JPMorgan Securities LLC
Hey. Thanks very much. Good morning. And really, I guess just a little bit of a quick clarification this morning rather than a question. Just making sure to understand the difference between production and deliveries this year on 737. When you say the high-end of the guidance is assuming low-30s and moving to high-40s, you're talking deliveries there, and then with regard to production, when you say that you are kind of hoping to get to a place where you see some stability this year, that's with regard to production in the factory and so that would make it seem unlikely that the production rate is going higher than 31 this year. Is that a fair way to think about things, regardless of where the deliveries shake out?

Brian J. West  
Chief Financial Officer & Executive Vice President-Finance, The Boeing Co.

You're right on characterizing the delivery framework, and I would say that as we move through the course of the year, and we'll have fewer inventoried airplanes, that will put a little bit more opportunity on units coming out of the factory so production rate at the right moment could get higher. We'll wait and see. We're just going to stick to the range for now.

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

And as a reminder that we're not shooting for the low-end of the range.

Seth M. Seifman  
Analyst, JPMorgan Securities LLC

Right, right. And as far as that stability that you're looking for, how much at this point would you say needs to come from improvement in the supply chain versus any improvement that's necessary in the internal productivity?

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Yeah, look. I don't want to suggest that we don't have our own opportunities internally. We do mostly driving cycle out and creating buffers in the right positions, et cetera. All things that you would attach to a company that really practices Lean, so we will make improvements there, but the lion's share of the rate discussions is going to be built around the supply chain and the capacity, literally the capacity and capability of that supply chain to meet the new rates, and as I said, very transparent discussions.

It's almost entirely built around labor availability, trained labor availability as we move through the course of the year. Hiring is not a constraint anymore. People are able to hire the people they need. It's all about the training and ultimately getting them ready to do the sophisticated work that we demand.

Seth M. Seifman  
Analyst, JPMorgan Securities LLC

Great. Thank you.

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Yes.

Operator: And next, we'll go to Cai von Rumohr with Cowen. Please go ahead.
Yes. Thank you very much. Could you update us on your efforts to certify the MAX 7 and 10 as well as the 777X and as part of that, the agreement to allow you to push out the certification dates of the 7 and the 10. I think you agreed to back fit some software changes on the existing MAX fleet. Could you tell us how much that's likely to cost, when did you take the accounting impact? Thank you.

I'll take the last part of that to get that off the table, Cai. Thanks. The provision to retrofit the fleet was taken in the fourth quarter. That's behind us. It was small.

Okay.

There's a reason why it's small but I just, I hope everybody knows and understands how important it was to get those extensions in place and the legislation. The argument was purely a safety argument. Fortunately, we got a lot of support on both sides of the aisle, and we got it done, so this gives us all the flexibility we need to get these airplanes certified under the existing applications and we feel good about that. We think first delivery for the 7 will be this year and probably for the 10 the next year.

So we like where that stands. Everybody is calm. The FAA, nobody ever put pencils down, so we're just going to progress and like always, we're not going to tell you exact dates as to when we expect those certifications. So all feels good and then yes, the legislation that was approved included some improvements that we put into our cockpit on the -10 that everybody agrees are useful and helpful to pilots, and those largely software adjustments will be incorporated into the entire MAX fleet over several years.

As Brian said, it's not a large number but we provided for it and we're confident we can meet those objectives, provided the Cert, and those improvements are accomplished here in the next year or two.

And the 777X?

I'm sorry. Everything is on course for the 777X, and I think the only issue that has created some concern over the last couple of years has been our agreement with the EASA on some of design principles that we think we're making terrific progress with the EASA and I think we will have a coordinated regulator, regulatory approach to the Cert, and so we're staying on our targets.
Thank you.

David L. Calhoun  
*President, Chief Executive Officer & Director, The Boeing Co.*

Yes.

**Operator:** And next, we'll go to David Strauss with Barclays. Please go ahead.

David Strauss  
*Analyst, Barclays Capital, Inc.*

Thanks for taking the question. Good morning. Could you touch on the large pickup in 787 deferred, the balance in the quarter, what that means going forward for the cash outlook on the 787 and also, Brian, if you could just touch on the big pickup that we saw in the BCA unit loss. Is that just related to the higher 787 deliveries in the quarter? Thanks.

Brian J. West  
*Chief Financial Officer & Executive Vice President-Finance, The Boeing Co.*

Yeah, on the deferred production balance, that's basically the 787 cost base extension that I mentioned has an impact on program margins and that's amplified by all the finished goods inventory, it's sitting there on the 100 airplanes so that's driving the increase.

And your last question, basically, it's impacted by customer mix and the impact of customer concessions and considerations.

David Strauss  
*Analyst, Barclays Capital, Inc.*

Okay. And a quick follow-up on the I think you said 138 China airplanes in inventory. Are you still looking to remarket those?

David L. Calhoun  
*President, Chief Executive Officer & Director, The Boeing Co.*

Yes, but only partially and as of now, when you see the sort of the results of that effort, you can assume that we'll be on pause with respect to that until we get, until we understand completely where China wants to go. So the answer is yes and you'll see progress, but you'll also see a pause so that we can discern what China wants to do, and hopefully that's good news.

David Strauss  
*Analyst, Barclays Capital, Inc.*

Thank you.

**Operator:** Our next question is from Jason Gursky with Citi. Please go ahead.

Jason Gursky  
*Analyst, Citi*
Hey. Good morning, everybody. Brian, just a quick clarification question and then one over on the services business. On the clarification, you mentioned that margins at BDS tick up in 2023, but don't get back to the long-term margin rates that you expected on a normalized basis. Just curious what the milestones are going to be for us to be watching out for on getting back to those normalized rates. And then on the services business maybe just a little bit more color on expectations for 2023 with regard to your expectations on growth rate and margins. Thanks.

Brian J. West
Chief Financial Officer & Executive Vice President-Finance, The Boeing Co.

Yeah, sure. On the BDS, so as we mentioned, long-term high-single digits is what we've talked about. But in the near-term, the same kind of supply chain constraints and labor availability that we've talked about in the BCA world impact the BDS world as well. So when the current environment is less constrained and stabilizes, that'll be a benefit. We expect it to happen partly in 2023, but the key, I think, to watch is just the stability of the supply chain is going to be a big, big deal that we're keeping our eye on and that's going to be important as margins will tend to accelerate. The time and the pace remains to be seen, but it will get better in 2023.

On the services side, so we had a big year for the services business. It's going to have to — and part of that was based in the commercial recovery and we enjoyed the benefit of that in 2022, but BGS in terms of their revenue, they finished the quarter at a pretty got spot, pretty clean basis and if you just kind of think about that as how you would extrapolate into 2023 by quarter it gives you a pretty good view of where we see that growth coming for, so it will grow, margin will be just fine, right within that mid-teens levels that we've enjoyed, so we feel pretty good about the prospects for the service business, very stable, continue to grow, no surprises.

Jason Gursky
Analyst, Citi

Great. Thank you.

Operator: Next we'll go to Ron Epstein with Bank of America. Please go ahead.

Ronald J. Epstein
Analyst, BofA Securities, Inc.

Hey. Good morning, everyone.

David L. Calhoun
President, Chief Executive Officer & Director, The Boeing Co.

Hey, Ron.

Ronald J. Epstein
Analyst, BofA Securities, Inc.

Just circling back thinking about product development and so on and so forth, like you mentioned at the Investor Day that Boeing wouldn't be going forward with a middle of the market product probably until sometime in the 2030s. How should we think about that in light of the recent win with NASA on the truss-braced Transonic wing program and what that means? Could that be some early technology on a new platform or what are you looking for to happen in the technology world to feel confident about doing something new?
David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Yeah, so, Ron, I'm going to highlight three things that I think are going to contribute to a truly differentiated new product. One of them is the truss wing so I'll refer to that now. As you know that that is technology it's been worked on for the better part of a decade, alongside of NASA, and the program that we've embarked on here is how do you commercialize it? How do we put it through the right set of tests, et cetera, so that it in fact can be incorporated into new airplanes, so there's real intent there to be able to do it. I'm not sure it is going to be as good and/or applicable for middle of the market and/or wide-body but it will definitely have a role to play some day in the narrow-body world, so that's number one.

Number two, you've heard us talk about the digital thread being able to create the digital model not just for the airplane but for the factory and for the servicing, but we are really cutting our teeth on a couple of defense programs that frankly we're learning a lot every day, all day, so that whatever we do on that next commercial airplane will incorporate the digital thread and it will be way more mature than what it's been so far in our discrete defense programs, so anyway, I feel very good about that. And then the last major element has been the one that usually carried the day but in this case I think will simply contribute to a better day and that's propulsion technologies.

Bigger bypass ratios and you probably know a truss wing setup will create that opportunity to a far greater extent than today's wing, simply because of the distance from the ground, so there are lots of reasons why I think these technologies can and will be proven and ultimately adapted and when you're considering a 50-year kind of program for any new airplane you have to think about this and in our view, the objective has to be somewhere between 25% and 30% better than it is today, and that's what we're focused on and I think we have the time to do it and the technologies to play out.

Ronald J. Epstein  
Analyst, BofA Securities, Inc.

Got it. And if I can just a quick detailed follow-on. What are you thinking about head count productions as we go—or head count projections as we go into 2023? I mean how has it been in the labor market and kind of across the supply chain what you hear is everybody needs more people and how has it been for Boeing and what are you doing to try to cross that bridge?

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Yeah, hey, Ron, I want to be clear. We have had no trouble hiring people. None. We're sort of at or a little above of where we were in the days you guys all remember, because we've got so many of these rework apparatuses going on and there are a lot of people required to do it, so our job is to actually just take what we have, incorporate all of the learning from the folks who are doing the rework. That will displace whatever retirements and/or demographic issues that we have over the next couple of years.

We have a pretty good set up on labor and a pretty good mechanism ironically with these return to service aircraft and the join verification, a pretty good mechanism to train mechanics, train our people to do the job, and on the engineering front, man, we've had a real good run, hiring is over 10,000. Our job is to make sure that we just train them right, get them involved early, and get on [ph] to live (00:51:15) so we are not facing a big demand.

Our supply chain probably still is work in the hiring a bit but it's nowhere near as important as their – the training of the people that they're bringing in. I've seen this thing really ease up in the last year, like really ease up. Tier 1s, I
doubt any of them are really fighting for talent anymore and underneath that I think the supply chains are filling out. It's all about now the training and development.

Ronald J. Epstein

Analyst, BofA Securities, Inc.

Got it. Thank you.

David L. Calhoun

President, Chief Executive Officer & Director, The Boeing Co.

Yes.

Operator: And next we'll go to Rich Safran with Seaport Research Partners. Please go ahead.

Richard Safran

Analyst, Seaport Research Partners

Hey, Brian, Matt. Good morning.

Brian J. West

Chief Financial Officer & Executive Vice President-Finance, The Boeing Co.

Good morning.

Richard Safran

Analyst, Seaport Research Partners

So you're not going to be surprised I'd like to ask you about defense. I wanted to know first could you broadly discuss your defense portfolio, the opportunity set and what we should be focusing on? Just by example I noticed at AIAA you were discussing a C-17, C-130 recap. Second to that could you also discuss the F-15EX program in terms of expectations for deliveries, production rates and also if margins on the program might be comparable to what we saw when you were selling older models under FMS. Thanks.

David L. Calhoun

President, Chief Executive Officer & Director, The Boeing Co.

Yeah, so let me take this one. Let me address it at the portfolio level. In light of the difficulties we've had with the fixed price development contracts, which I consider more of a contracting exposure as opposed to a portfolio exposure, I feel really good about the portfolio broadly and there are reasons why I feel that way.

We're fully invested as you know autonomy. I believe autonomy and teaming are going to be one of the real drivers with respect to airplane development, Air Force, Navy requirements going forward, and we're already invested and we're making real progress with both of those members of the fighting forces, and I'm sure you know the programs that we talked about and there are others we can't talk about which were as excited if not more excited about.

So the long portfolio and the development that we've sustained over all these years I feel really good about. We have the T-7 trainer. It's way more important than just the market for trainers itself. Ultimately we think it can be used as a derivative to do other things for the Air Force and I'm sure you know what that's about, but maybe even more importantly, it's an absolute poster child for our digital thread and it's teaching our customer how to think
about the use of the digital thread and it's teaching us how to perfect all the production technologies that we need to take full advantage of the digital thread.

So if I look at just our sort of our wing fleets, I feel very good about where we are and as you point out, the F-15, the new derivatives, boy, they are really important to our customers. We feel great about the future. It feels like a new platform frankly from my perspective. I'm not going to handout production rates at this stage, but we're feeling pretty good about the international demand as well as our US demand and in light of their only other choices this gets frankly more valuable over time, until the really new classified work ultimately is completed and brought to the market.

Anyway, I feel quite good about the portfolio. It's development, where we stand in it, and I'm sorry some of the contracting methods that we used in the early going here but anyway we are where we are and I can't get off the page without talking about the Tanker, which we all still believe very, very strongly in, again, difficult contracting moment for us. On the other hand, it's utility to the Air Force has been fantastic. The vision system, our commitment to it and then technologies beyond that allow for even autonomous refueling these are things we're fully invested in and we believe in the growth of the industry and the need with our customer. So anyway, there are other things and you'd probably know a lot of that but there's a reason to feel good frankly on the development front with respect to Boeing's defense business.
higher than they were back in 2018 driven by productivity, pricing in the dash-10 model so the 787 feels like it's on the verge of doing some real special stuff over the long-term.

On the 737, near-term pressure because all the supply chain things we talked about, some customer mix things that we’re going to battle through, and possibly some impact to remarketing and then long-term, it's going to be more or less in line with what it was before and the benefit being the productivity and the rate ramp, so the that's kind of how we think about those two programs over time from a cash perspective.

Sheila Kahyaoglu  
Analyst, Jefferies LLC

Great.

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

You really – Sheila, you really have to get through calendar year 2024 and then a lot of the clouds, a lot of the things that we've been wrestling with, the things that impact our margins and the lumpiness along the way, that all begins to clear as we get to the tail end of 2024 and then as we think about 2025 and on, I think that clarity will be apparent to everybody.

Sheila Kahyaoglu  
Analyst, Jefferies LLC

Great. Thank you.

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Yes.

Matt Welch  
Vice President-Investor Relations, The Boeing Co.

And that concludes our Fourth Quarter 2022 Earnings Call. Thank you for joining.

David L. Calhoun  
President, Chief Executive Officer & Director, The Boeing Co.

Thanks, everyone.