Wendy Peebles: My name is Wendy Peebles. I'm with the Census Bureau Economic Management Division and it's my pleasure to host the Webinar today along with our trade promotion partners, US Small Business Administration, EXIM Bank, Commercial Services and NIST Manufacturing Extension Partnership.

We have an informative Webinar planned to discuss supply chain solutions, some best practices and federal resources for expanding global opportunities to manufacturers. At the end of the Webinar, we will have our question and answer session.

Please submit your questions to all panelists via the chat. We have a team that will be monitoring the questions so you may submit your questions throughout the Webinar.

And following the Webinar today the presentation, transcript and recording will be emailed to you in a few weeks. And you can also access that information from our Census Academy site.

Lastly, we want to receive your feedback on the Webinar so please complete the evaluation it helps us to determine content to offer you in the future. So the evaluation link will also be placed in the chat. And at this time I think we're ready to begin. Anthony I'm going to pass it to you.
Anthony Diaz: Thank you so much Wendy. And hello and thank you to our audience for joining. My name is Anthony Diaz. And I'm a Strategic Partnership Manager with the U.S. Department of Commerce's Manufacturing Extension Partnership or MEP. MEP is a public private partnership with centers in every state and Puerto Rico that provides business services, such as lean and process improvement, quality, growth, workforce and cybersecurity, just to name a few, to US manufacturers.

We have a great program lined up for you today it's centered around an important topic that we're all talking about, supply chains. So whether you're a member of a supply chain division or where multiple hats like owner, head of HR and supply chain we hope that you will get something out of today's session whether that's the resources that we'll be talking about today or best practices during the discussion.

So a little bit about today's agenda. First, we'll start with remarks from the National Economic Council in the White House to discuss the Biden administration's manufacturing agenda. Then we'll move to the supply chain solutions panel where we'll hear from leaders of companies and manufacturing experts from the MEP National Network on challenges, solutions and best practices with respect to supply chain management and strategy.

And then our final speaker joins us from the US Small Business Administration to discuss their emerging resource for manufacturers called the Manufacturing Hub. And with that I'll introduce our first speaker, Elisabeth Reynolds.

Elisabeth Reynolds is a member of the Biden administration's National Economic Council. She served as a Special Assistant to the President for
manufacturing and economic development. Before joining the NEC Elisabeth was a Principal Research Scientist and Executive Director of the MIT Industrial Performance Center.

Her research examined systems of innovation and economic development with a focus on advanced manufacturing to run innovative companies to scale and building innovative capacity in developed - in developing countries. Elisabeth, thank you so much for joining us today and the floor is yours.

Elisabeth Reynolds: Thank you so much Anthony. It's a real pleasure to be here with you and with my colleagues across agencies and also with all of the participants. This is a very exciting time for our - the manufacturing agenda and a very challenging time when it comes to supply chains so I think the Webinar is well timed and I'm excited to be part of it.

Let me first start by saying I think hopefully everybody recognizes that investing in and building back our industrial base is one of the primary goals of the Biden administration. This is probably one of the few times that we've seen such a robust investment in an industrial strategy that understands that our manufacturing base and a robust manufacturing base is a matter of national security, economic security and innovation capacity.

And I think that we are all aware of how the pandemic really exposed a lot of vulnerabilities in our supply chains and in our industrial base whether that was from PPE or all the way to semiconductors or frankly truck traffic which I'm spending a lot of time looking at these days.

And we are in a new environment. We're in an environment with technological change at an accelerating pace, we've got global climate
challenges, we've got increasing inequality, increased global competition as well as challenges from competitor nations.

And for all these reasons the administration has put manufacturing and industrial strategy first and foremost in its strategy going forward in a number of ways. So I'm going to run through a few of those priorities and look forward to having more discussion during today's Webinar on some of them.

So in terms of the strategy I think there are multiple prongs. I'm going to speak to specifically to five of them or six of them. And of course these are all interlinked in many ways but it's important to see them as sort of particular themes across the manufacturing agenda.

The first of course is innovation through R&D. Without the innovation, which is really a competitive advantage for this country, we are challenged I think to compete globally. So the investment in basic R&D and as well as applied R&D is a highlight of the administration as part of the United States Innovation and Competitiveness Act.

And it includes investments at the NSF and across all of the agencies to focus on areas that are of importance across all companies whether that's in advanced manufacturing such as robotics and 3D printing, whether it's in the bio economy, biopharma and bio industrials, whether in climate tech or advanced electronics. We see a lot of investments across the across the board on the innovation agenda.

The next agenda I think that is relevant for this group is on supply chains. And you may all be aware of the Executive Order that was issued in February by the president to focus on how to build resilient supply chains in the country
since having seen some of the vulnerabilities that have been exposed in the last year or two.

So what we see is an agenda that is first and foremost about building the small and medium sized firms and investing in those firms. They are the backbone of many of our supply chains.

And we need to find ways to support SMEs in terms of investing in advanced technologies, helping with workforce development and also in procurement opportunities. All of these I think - we think are ways to invest in SMEs.

It's also an agenda that requires us to invest in advanced technology that will help us innovate our way into resilient supply chains. So where we have perhaps lost industries or seen them on go offshore how can innovation and new technology actually bring them back on shore?

One area that we see some opportunities here would be in pharmaceutical production which is largely been offshore but with new technology there's an opportunity to really be advancing productivity and bringing that production back onshore.

Another key area in thinking in terms of our manufacturing base has been through a geographic lens through a number of different programs including our MEPs, the Manufacturing Extension Partnership, critically important to engaging with our small and medium sized firms as well as, you know, helping with supply chain resiliency.

Our Manufacturing USA Institute and the innovation agenda they bring and the partnerships they can help facilitate as well as a new initiative around innovation hubs and how we can bring regional innovation, in particular
technology hubs, to areas that have not necessarily had those in the past. So if you think about opportunities perhaps in the heartland or in other areas that are not renowned for their innovation like for example the Silicon Valley and Boston's of the world or the country how do we bring more innovation across hubs through to a new competitive program that will be run out of the Commerce Department?

In addition to these priorities workforce development is another key priority. We know for our manufacturers the challenge of finding workforce, the next generation and training that next generation is not a problem. The problem that existed before the pandemic, it's a problem that will exist after pandemic.

And so we all investments in looking at ways we can bring a pathway from high school into continued education for the next generation of manufacturing workers and also a big emphasis on apprenticeships and sector partnerships. All of these are high priorities for the administration.

I would also emphasize, as I did before, the procurement focus and how we can use the $600 billion in contracts that the government provides annually to support US manufacturing to put particularly small and medium sized firms particularly also with an equity lens as well as the infrastructure bill.

Everyone I think on this call would recognize that the investment that we're proposing for infrastructure which is so needed across our roads, bridges, ports, airports, transit, rail, you name it will have major implications for manufacturers. And so we're excited about about the prospects of that bipartisan bill.

I think I will - let me let me also just mention I guess before I close that we have proposed and hope that there will be a lot of support among this audience
as well as others for what you have called a critical supply chain resilience program. And this would be a new program, again housed at Commerce, that has both a monetary analysis function to understand where we see vulnerabilities in our supply chains and try and forecast or predict them ahead of time so we get in front of them as well as an investment capacity to invest in the areas where we only have a few potential manufacturers to invest in some of the new technology that might bring new capabilities onshore.

To invest in production of potentially of commodities that would be historically a place where we're not - where the US is not so competitive but where we want to actually create capabilities for reasons of national and economic security. So that is one program that we're very excited about and hopeful to see come to fruition in the coming months.

I'll stop there Anthony and look forward to any questions and conversation about this topic. Thank you.

Anthony Diaz: Liz, thank you so much for talking about the Biden administration's priorities and also for using that magic word that really is what brings us here today so supply chain solutions.

So this brings us to the next program if I can ask the - for the next slide, please, a supply chain solutions panel. So we're joined by again, great companies and also members of the MEP national network to talk about supply chain challenges that exist, talk about solutions and best practices.

So first I'd like to introduce our panelists. So we're joined by Risa Baron, co-owner of Jackie's Jams. We're also joined by Anna Mangum, Regional Manager at the North Carolina MEP Center, but we're also joined by Mary Ann Mauldwin, Chief Operating Officer of Roush Yates Manufacturing
Solutions and then Gary Steinberg, Supply Chain Advisor with CMTC, the California MEP Center.

So thank you all so much for joining. We really appreciate your expertise, your time and your willingness to talk to the small and medium sized companies that are joining today's call. So I'd like to start with a very hardball question today. Can you tell us a little bit about yourself and also your organization?

And Risa I'm going to pick on you since I'm going to go this first round in alphabetical order. Can you tell us a little bit about yourself and Jackie's Jams?

Risa Baron: Absolutely. Hi everybody. My name is Risa Baron. And I'm the co-owner of Jackie's Jams with my husband David. And we've owned our business now for 12 years. And we are a very, very small business. I have five part time employees, my husband and myself and we manufacture artisan jams and jellies here in San Diego, California.

And we, I guess we've used a lot of the small SBA service programs and to be quite frank we're very grateful for SBA. They helped us actually grow our business tremendously through the resources and through the organizations that we partner with here in San Diego County including the South - East County EDC and CMTC.

But I think what I'm getting at is as small as we are we have been greatly, greatly impacted by the supply chain issue. I can get into a lot more details later in terms of what we had to deal with but all I can say is it's hitting everybody from the mom and pop business like ours to the really, really large businesses.
And I feel that we need to come up with some solutions quickly because if we don't have the products that we need to produce our product we're going to be out of business really, really soon. And also having access to capital to purchase things when they are available.

So that's my point and a little bit more about us is that we recognize that this has become a problem now for the past year. And all I can say is I'm really open to ideas, suggestions, collaboration. We've invested our blood, sweat and tears into our business and it would be unfortunate that if we would have to lose it because of the situation that we're currently dealing with.

Anthony Diaz: Thank you so much Risa. Now Anna could you tell us a little bit about yourself and also the North Carolina MEP Center please?

Anna Mangum: Absolutely. Well first I'll just speak on the NC MEP really quickly. We are the MEP Center just like every state across our country has an MEP Center. We are the primary representative and partner across nine different partners in the state of North Carolina serving our small to medium sized manufacturers with different support services.

The group that I work for is actually based out of NC State University, which is also my alma mater, and the College of Engineering. And we were actually the first engineering extension in our country back in the 1950s. So our legacy has really been strong and finding solutions, creating solutions and also creating connections across North Carolina's really abundant and diversified supply chain and manufacturing community.

I've actually worked with the MEP Center out of NC State for 13 years. And as a Regional Manager for the last six I have grown the relationships in my 13
counties that I cover in support. And it's really been quite a challenging rollercoaster ride over the last many months to see the supply chain issues and also just the business issues that have bubbled up across the board across all industries, across my 13 counties I support.

And I look forward to sharing some of those stories with you today but if if nothing else I'll just say this has been both an exhilarating and an exhausting time for manufacturers in all of the change day to day.

Anthony Diaz: Thank you Anna. Mary Ann, can you tell us a little bit about yourself and also about Roush Yates please?

Mary Ann Mauldwin: Thank you. Roush Yates is very exciting. I'm Mary Ann Mauldwin. I'm the COO of Roush Yates Racing Engines and the President of Rouch Yates Manufacturing Solutions.

I've been with Roush Yates for about 17 years. And my background is, and actually my degree is in secondary education, so that's a very important piece of any position that I've had. And then I have a degree in industrial engineering.

My career began in supply chain management in correlation with industrial engineering and methods, and layouts, and being efficient in utilization. So as time has progressed and I arrived at Roush Yates I realized again how critical it is to collaborate and to communicate.

And so I've always reached out to the experts in the industry. And NC State Extension has been one of those and as well as the MEP organization. And we are so pleased that we have been able to maintain our supply chain pretty well, and we'll go into more of those examples later.
But I also just wanted to mention briefly that the reason we have the machine shop is because we were making, as we still do, we design and assemble all of the Ford engines in NASCAR. So we have a great need for confidential information for quick turnaround prototype. This was before additive manufacturing was the buzz word.

So we bought our own machines and started making parts. And today we make about 30% the parts that go in the engine. But we were so successful in design and quick turnaround that companies came to us some of our, actually some of our vendors came to us, and asked us if we would make parts.

So that's how we arrived from the standpoint of having three numerically control machines to today we have 67 and we're a pretty big business. We have 100 employees who work at our manufacturing center. So I look forward to the panel discussion and the ideas and things that we can discuss here that once again will help us all.

Anthony Diaz: Well thank you Mary Ann. I can tell that the secondary education is where the love of teaching and sharing best practices comes in. So thank you so much, really appreciate that.

And Gary, please bring us home. Please tell us a little bit about yourself and the CMTC.

Gary Steinberg: Well thank you Anthony, and thank you for having me today. It's really exciting to be part of this really great panel.
So CMTC is the MEP organization supporting the entire state of California. And we're always proud to say you have the largest MEP in the country only because we have the largest state in the country.

So - but we also have some support organizations. And we primarily service Central and Southern California. And we do partner with Manex up in Northern California to service all of our clients and the S&Ms throughout the state of California.

And the services, just like as Anna mentioned, we offer all the services. A lot of those services not only supply chain services, marketing services, training services, quality, lean. I mean we are here to help our small and medium sized businesses grow their business and maintain their profitability and become profitable.

So we're involved in all aspects of some - in SMMs immense business and we offer those services. Most often those services are offered at either complementary, free or subsidized by the national, you know, by NIST and also by the state of California. So there's a lot of opportunities to get consulting services and support that is subsidized through, you know, our resources.

For myself, just real briefly, I joined the CMTC about 18 months ago great timing during the pandemic because there was certainly a recognition that there was a need to support the supply chain. And we had a number of challenges in the past year and a half. We continue to have those same challenges and even they're far accentuated today as they were, you know, back 18 months ago.
So my role here has been supply chain services and supply chain support for CMTC. And my background has well most of my years of experience in industry has been in supply chain management and engineering and the past ten have been more than the consulting role.

But overall I have enjoyed this role and I'm proud to say that not only Jackie's Jams but we've - and we have at CMTC just in supply chain have held probably over 100 different companies within the last 18 months with supplier scouting and matching programs. And that, you know, covers an array of, you know, finding other sorts of supply to transition, or second sourcing or locating redundant suppliers.

So with that I'm going to turn it back to you Anthony and I appreciate the opportunity.

Anthony Diaz: Thank you Gary. So I think we're going to structure this panel a little bit by talking a little bit about challenges, then solutions and then stories from our companies. So I think we've heard a little bit about some of the challenges that small and medium sized companies are facing and the fact that, you know, big companies are experiencing them as well small companies, you know, are definitely experiencing them.

Anna, can you tell us a little bit about what you're hearing from companies in your state, small, medium sized manufacturers what kind of challenges are they coming to you all with respect to supply chain?

Anna Mangum: Oh, the stories I could tell. The challenges are very diverse but there seems to be quite several themes. I mean I think that there are certain industries that were hit hard, a little bit harder than others.
I think we can all recognize that certain raw materials are making certain kinds of products more difficult to source particularly anything involving steel, glass, plastic, primarily because of resin. And then of course the challenges from Asian markets whether that be raw materials or the influences of COVID and influences of logistics.

You know, in terms of some other things that have cascaded from that we've had some manufacturers like I've got a machine shop in my territory that's a specialty machine shop to a very large manufacturer. And they relied on that business for so long. I mean they created their business model around being essentially the parts manufacturer for this much larger organization.

And this larger organization recognized the risks they were putting themselves in due to COVID. And so they decided to move in the direction of vertical integration and it cut back on the business of this small machine shop and it made the smaller machine shop want to diversify their business in order to become more stable as a financial model.

Some other things that we've been hearing just quite frankly is just in time inventory management is not possible anymore. I've got manufacturers now that are stockpiling inventory that represent over 12 months of supply. I've got a manufacturer I was working with yesterday that purchased inventory for one component of their product that is seven times their normal order.

So when Mary Ann mentioned access to capital, I believe it was Mary Ann it might have been Risa, that's going to be critical as we move forward. This manufacturer is lucky that they are of a financial situation where they can make that purchase size however others might not be in that position.
And then I think, you know, one of the other things that we've heard is the very interesting integration or the cause and effect that the workforce challenges are having in relation to supply chain and logistics both internationally and domestically. So domestically I'm hearing from some more sophisticated industries that they're having issues with meeting some of their demands because of lack of salaried workforce that they have staying.

And then in some lower tech industries I'm hearing that their workforce in their hourly staff has so - has been so lack of dependent that they're unable to keep up with the demands that they have and how that's causing effects on their customer base because they are their supply. So it's very interesting to see how those two components of challenge and themes across the world are really intertwining themselves.

And it'll be interesting to see kind of how that plays out in both, hopefully good ways in the end. Those are just a few short answers.

Anthony Diaz: Thank you. And Gary does that sound - that was what those California companies are coming to CMTC for you're seeing kind of similar trends there?

Gary Steinberg: I think Anna hit most of those issues that we're seeing. I mean I could add maybe one or two others. I think the one that we see, because we're so close to the port here in Los Angeles and Long Beach, really extended shipping delays, major port issues.

You know, if I get lucky enough to go down to the beach one of these weekends you can see the freighters out there lining up in the port. And at last count we probably had 60 freighters waiting to be offloaded in the Port of Long Beach in Los Angeles.
So that's causing I would say a minimum of a three week delay in a typical freight lead time which is typically four weeks coming out of Asia and China. But now we're seeing, you know, total freight times taking seven or eight weeks.

And I think the other impact, you know, we've talked about delays and issues with, you know, sourcing but the other impact has been really, really difficult to overcome is we've seen tremendous price increases across the entire supply chain including freight, including logistics. We've talked about raw materials, we've talked about shortages but nonetheless we're seeing tremendous price increases.

And unfortunately the price increases can only be absorbed through a certain level by a company especially SMMs. And those costs are going to get passed along to consumers, other companies and it's going to have a very, very I'm going to say challenging impact to our economy.

So I know we're - I'm not an economic, you know, major or, you know, expert but, you know, we're heading into that inflation spiral that we talk about and supply chain is a major contributor to that.

Anthony Diaz: Thanks Gary. So I saw some head nodding with a few of those themes. Risa, since you went first can you tell us a little bit more about how that kind of related to your business and Mary Ann maybe we can follow-up with yours and move to the next series of questions?

Risa Baron: Absolutely. And actually everything that has just been said I've gone through. And so really the challenges that we have been dealing with is back in September of last year I got a call from my vendor, my jar vendor, asking -
telling me, "Hey we're going to have a shortage buy as many as you can." And I did. And I bought ten pallets of jars so we could be ready for the holiday season.

And I ended up getting a huge, huge order. I guess there's been some silver lining also for us as much as it's been really hard to source our jars our orders have gone up because of retail and people wanting to buy local. And we do provide our - we do sell through Whole Foods and Sprouts here in California.

And because of people buying more and more stuff in the grocery store last year during the pandemic we actually saw some increase in sales. So it turns out after I purchased all those jars I got this huge order from Sprouts that I needed to fulfill.

And I was almost out of jars in November of 2020. And I called my vendor up and I said, "Hey I need more jars." He's like "Risa I'm out. I told you I was going to be out. You bought everything that I had." And I said, "What am I going to do?" And he said, "Well I know you placed an order back in the summer hopefully it'll come in time."

From there I ended up calling CMTC and Gary. And I said, "Help I'm not sure what to do." And Gary said, "We have a service to help you." And what the service was is he went out onto the market for us and helped us identify other vendors that we could source jars from.

And I think maybe a lesson learned is don't rely on just one vendor. And so I found two more vendors that I started buying jars for as my backup but it really helped me get through a really difficult time. I literally was down to two cases. I had 24 jars left in my inventory I usually have 10,000.
And we had a little miracle pop in that week and the jars came and so we were able to get all of our holiday orders filled. But for me it was the aha moment that this is real this isn't going away. And once again I got the call from my jar vendor saying, "Hey you need to stockpile jars." And I have been stockpiling jars since January.

I probably have two years of jars in my warehouse because I'm so scared I'm not going to have jars because no jars, no business. And I think this is probably a big theme nationally regardless of what your industry - manufacturing facility is, is that we're scared we're not going to be able to have the supplies needed to produce. And - but what I've been told by my vendor, who I've been working with for years, that this isn't going to go away any time soon so you really need to plan ahead.

The only other piece I will definitely stress, and I can't stress this enough, is the price. The price to buy our jars has gone up. And it doesn't seem like a lot by 25 cents but if you have to buy thousands and thousands of jars that does add up.

And for us that's that's a real hit. We started raising our prices. We're very hesitant to raise our prices but we recognize that we got to get to a point where we don't want to lose money just because of all of these unexpected cost increases. And it's it's also beyond the jars, it's the sugar, it's the fruit it's all of the things that we need to produce our product because of transportation and logistics everything has gone up.

Anthony Diaz: Thank you Risa. And just in case I also put your story in the chat that talked about the jar situation. So I put that in the chat. Mary Ann...

Risa Baron: Oh great. Thank you.
Anthony Diaz: ...I saw - I'm seeing a lot of head shaking with certain topics. What resonates with Roush Yates?

Mary Ann Mauldwin: Well I think there are a number of things. Of course parts, people and materials are our three key components. So starting with people. Of course there have been major labor shortages regardless of the industry.

And from the inception of this company we have partnered with UTI a division NASCAR Tech. And so we bring in the students who are actually going to school as interns to work in our engine shop.

Well about ten years ago we were having problems finding machinists even at that time. So we decided we would go write our own courses. So again my passion is education. So we hired a former president of a local small university and we wrote our curriculum. And we announced that on our Web site that we were opening a school for machinists.

And the next day we received the call and NASCAR Tech asked if they could buy our program. So we never actually opened our own doors but they who already had instructors, already has buildings and things they opened that school.

Well we have hired their, again hired their students for our manufacturing environment. So we have been so fortunate to have a continuous flow of people and have - it's a great way to interview them too make job offers to them. We've hired over 100 students over the last ten years. And so with that we've been able to train people who were just learning that theory but we've also been able to train them with our software and so forth.
And then with our supply chain issues, as everyone has had, we looked at more vertical integration. Anna I know that you mentioned that before. We determined years ago that we wanted to diversify and that's why we got into the machine manufacturing business to begin with.

So with that diversification we did a lot of research on the industries that we were going to focus on aerospace, defense, automotive and what was required of those different industries to do business with them. We found certification were at the top of the list.

So we became certified in AS9100, we're NIST, we're - we have numerous different certifications and we're currently working on our design certification. But with that we were able to collaborate and communicate with many different companies and that's how NC State Extension actually gave us so many opportunities to collaborate with local companies.

So during this time as we were diversifying and we were doing more and more work for the Defense Department we found when COVID hit that we were experiencing longer and longer lead times. They were having difficulty with their labor force.

And so in parallel we worked on creating our own painting process here. It, you know, normally when I look at vertical integration the primary justification is cost savings. This was not cost savings. This was being able to supply to our customer and to reduce lead time.

So the lead time from machining through paint back to assembly was about an eight week process, three weeks that was transit and paint and transit back. So in June of last year we totally began painting our products. And today we paint 90% of them.
We still want to back up, just like you were saying earlier, we don't believe in sole sourcing just because of the supply chain, but we have been able to reduce our lead time from eight weeks to about 3-1/2. And so it has increased our business to our customer five times because we're able to supply when many other vendors are not.

So it has many - there were many results to our vertical integration project but it's given us then the runway to look for other niche type businesses that we can bring in-house. And thus we got into design. We found that many of our suppliers had made the parts the same or had designed the parts for 30, 40 years, especially the Defense Department, and so we have communicated with their engineers and we actually have taken the cost out as well as time for them.

Our supply chain from, as you were saying earlier, with having all of the ships with all this product at - on the docks that's pretty frustrating so we experienced some of those things as well. So it's given me the opportunity to really focus on forecast as well as inventory accuracy because if you don't know what you have then you're not going to know when you're out which is really an issue.

And so we have always been very proud of our cycle counting program and inventory accuracy. We've had 99% plus inventory accuracy for 17 years. And it's paid dividends many times. We've seen our competitors who've had issues there.

But with forecasting we learned quickly that we had to communicate more with our customers and our suppliers. So we have weekly calls with our prior
customers and we talk about their forecasts, what their long term agreements are and where we need to focus on carrying more inventory.

So we constantly do a rolling six month forecast. And we have a policy in place that we have no less than three months of any raw material at any given time. We've seen some of those late deliveries and, you know, seeing those challenges but we've again we've been very fortunate.

And I think that the best part of the lesson is the fact that our communication has given our vendors the opportunity to be better prepared. And the communication chain as well as the supply chain is just so very critical.

We learned quickly that even tooling and machine equipment were on long delays. We used to be able to order a CNC machine and have it in place in three months now it's six to nine months. So again we need to communicate better with our customers to know at what point we need to add capacity or what they are working on that we might not be aware of.

We also saw cost increases, as you were saying earlier, on materials. We've all seen those things. So we've developed a strategy of purchasing larger quantities, but doing it with blanket releases, so we may purchase a year's supply of something and have it delivered quarterly or monthly.

And that certainly is a cash flow advantage and as has helped us many times in being able to pull in additional orders when maybe other people can't do that. So those are...

Anthony Diaz: Thank you, Mary Ann. Yes, that's wonderful. So we've heard that both your companies had to order - purchase inputs in larger quantities in advance. We've heard kind of similar issues with the raising of price - of cost of goods,
some solutions about bringing things in-house and just a similar shared problem of the parts, people and materials. I like that. I'm going to probably use that.

You know, now over time we've kind of - we've heard some challenges. You know, let's talk about how the MEP network, how thew MEP services helped to address those challenges. So I think Gary and Anna you had mentioned a wide suite of services from supplier scouting, optimization and other - and risk management. Maybe Anna can you talk a little bit about some of MEPs services and what you offer and then we'll go to Gary?

Anna Mangum: Absolutely. So I am lucky that I get to engage with the national team that hosts supplier scouting across the MEP national network. As mentioned before there is an MEP Center in every state. And we actually support and if you will hold hands and work together.

So if I've got a manufacturer in the state of North Carolina that we cannot identify a supplier for in the state of North Carolina because we do host a Web site and a database accessible to manufacturers in our own state to help them do business here. But if we can't find them an answer in our state then we have a method and a process for reaching out to our peers at other MEP centers in a program called Supplier Scouting.

This comes at no cost to domestic manufacturers, and that also includes US territories. We've actually worked on a supplier scouting project for manufacture out of Puerto Rico. And we engage with understanding what the challenges with the component that that manufacturer is looking to source.

We look at it both from an engineering and a technical level but also from the business and the financial level. And then we spread it across the MEP
centers. There are designated representatives that support the program in every state.

And then we kind of collect any potential candidates that could be those supplier answers and then feed it back to the original requesting center. That has proven to be successful in various different markets and various different kinds of issues.

And it really kind of got revamped, if you will, during the pandemic under the challenges with PPE and supplies to the hospitals. And so we were fortunate to kind of regain the strength the MEP Center had across, MEP Centers had across the network in working together that way.

And then just locally at our North Carolina center we do a number of other support services for supply chain answers. One is hosting of other Webinars to share best practices, and coaching and teaching on supply chain.

We had some of our partners from East Carolina University back in 2020 on sharing what some of those best practices can look like. Those are all free, recorded accessible to any manufacturer who wants to learn. And gain some of those best practices that Mary Ann and Roush Yates actually participates in and practices and have well before the pandemic that has placed them in this healthy spot to be resilient.

But, you know, right now, not a lot of manufacturers, particularly those small ones if they're an owner, or a plant manager or even somebody running the purchase department they don't have time to step back and watch a Webinar and then create a strategy. And so, you know, we pride ourselves in North Carolina as every MEP Center does in being what's called a trusted advisor.
And so as an example of something that we provide, you know, we provide what's called a technical advisory service. And this is something that we can provide at no cost depending on what the challenge or the ask is.

And just yesterday I was working with a boat builder in eastern North Carolina who has a very small operation, under 20 employees, and they were in desperate need of a plastic part. They were unable to gain stability and trust out of their long term supplier in Missouri.

And they asked, "Anna we want to be able to source this in the state of North Carolina. Can you please help me?" And so we didn't just create a list of potential suppliers for them actually called around to those manufacturers in the state of North Carolina kind of going down these rabbit holes, digging out what kinds of machinery and parts is - are needed in order to produce that plastic piece that this boat builder needed because he didn't have time, his hair was on fire.

He's running around trying to solve a lot of different challenges. And I could take that burden off of him and commit a day to support him to do that. That is rare, however it also enabled us to service other manufacturers in the state of North Carolina and potentially providing them with some business.

So in addition to that, you know, we also host other kinds of coaching services and consulting like for example with the ISO standard of 22301. And that's just business continuity for those manufacturers that are looking for more complex long term risk mitigation and forecasting support. So everything from right now in the minute I can help you to long term how do we build you back in a more resilient way?
Anthony Diaz: Thank you Anna. And Gary I have a very quick question to ask you, and then I think that producing wants to wrap this up, we're almost that time. Can you tell us a little bit about what - you'd mentioned risk management, risk mitigation strategies earlier, can you tell us a little bit about what advice you'd have for companies considering some risk management, risk mitigation actions?

Gary Steinberg: Yes, let me start with just saying for SMMs I think the first thing I would recommend is being proactive. I think, you know, Mary Ann mentioned that I think Anna's also mentioned it, but one of the things I see with SMMs is they really don't dedicate the resources required to support their supply chain.

And I think that's kind of a difficult position because a follow-up question is why should we dedicate resources? Well I think companies have to realize supply chains typically represent the highest cost in a company. So to me it's obvious, you know, but I'm on a supply chain person so, you know, things that are obvious to me are not always obvious to everybody else.

But I would say be proactive, dedicate a resource and start really in for SMMs analyze the risks that you have in the supply chain and use data and metrics as much as you can to identify those risks so that we can do some of these typical mitigation actions. I'm just going to bring up real briefly we've talked a lot about, you know, second sourcing we've done with suppliers. So that's the first one.

And, you know, I think Mary Ann mentioned inventory, increase your inventory where it's financially possible. Can you take on a year's worth of inventory? I don't know, you know, it depends on your company's financial situation.
Reshoring, near shoring your supply chain. Where can we reshore where can we near shore to like really to limit our exposure to China and Asia? I think because that becomes a reliability challenge at some point in the supply chain.

I heard this also consider vertical integration and in-house manufacturing. You know, take that manufacturing, you know, in my career I outsource almost every operation that I was responsible for but maybe I think times have changed and we need to reconsider that decision. Again - and this is a more of a long term solution.

The other one that I've heard is value, value your reliable suppliers. So with those reliable suppliers, Mary Ann mentioned it, you know, consider long term contracts. Consider annual buys with like Mary Ann mentioned good releases, you know, quarterly monthly releases. So those are a few of the things that I would recommend.

Another one is to increase your flexibility in the supply chain meaning when you have - develop a network of distributors that can supply the same part rather than relying on one distributor so that if you have an availability issue you go from, you know, distributor A to maybe distributor B or C or whatever who may have that part available and can ship it to you.

So, you know, those are some of the common, you know, actions that I would recommend but every company, every SMM can be different. But again my message here is, you know, take action, be proactive and really understand the risk that you have in your supply chain.

Anthony Diaz: Thank you for that Gary. So I promise this is the last question and maybe just because you had mentioned kind of next steps or kind of recommendations for - to the folks listening Gary. And maybe 30 seconds or less Mary Ann and
Anna can you tell us, and I'll start with Mary Ann, can you tell us one piece of advice you'd have for the companies that are listening?

These are - I believe we have companies from 46 states listening from DC, from the territories Mary Ann what is your one piece of advice on companies that are wanting to start, you know, implementing a good supply chain, best practice or what's one thing in less than 30 seconds they should consider?

Mary Ann Mauldwin: The one word I would use is networking. I think it's critical that you communicate and that you're involved in your not only your area but in your area of expertise.

So we are members of many organizations and it's a give and take. And as a result I think we've had great results in finding not just people but solutions, quick solutions and helping with solutions. And just as a quick aside when the pandemic happened we were contacted by a company who did (unintelligible) for us.

And they saw the need for a unit, filtration unit for the school system. But they needed parts and they needed parts quickly. We were able to provide those and supplied about 500 schools in the US with these products to help air filtration. This was certainly not a product or type of the industry we had been involved with before so think out of the box.

Anthony Diaz: Thank you. So networking and thinking out of the box. Anna, I'm going to come back to you after our next session if you don't mind but there will be a Q&A period. I just want to thank each of you so much for, and Rina as well, I just want to thank each of you so much for helping our clients out, for talking a little bit about what your challenges are, and what your solutions that you've come up with and also some best practices that folks can walk home with.
So again thank you so much to Rina, to Anna, and to Mary Ann and Gary. And I promise I'll give a proper goodbye later.

With that I'd like to introduce our next speaker, Antonio Doss, Deputy Associate Administrator from the SBA's Office of Government Contracting and Business Development. Antonio is going to talk about the SBA's manufacturing help any resource for manufacturers. So Antonio, the floor is yours and thank you so much.

Antonio Doss: All right. Well thank you so much to Anthony and it's great to be able to have a few minutes to share some of our latest developments here at SBA.

And I want to just kind of give you a little bit of background. So I am serving in the role of our Deputy Associate Administrator for our Office of Government Contracting and Business Development. And our office oversees all small business contracting programs within the federal government including the Women Owned Small Business Program, our service, Disabled Veteran Owned Small Business Program, HUBZone, 8(a) businesses and socially disadvantaged businesses, small disadvantaged businesses.

And all of our programs across SBA, not just our government contracting programs, but all of our programs really support small manufacturers on the government contracting side. And just last year we helped over 70,000 small manufacturers gain more than $32 billion in federal contracts, financial assistance and counseling support.

And I think we heard earlier Risa's comment about how the SBA was impactful for her business when she needed some capital during what it sounded like probably the heat of the COVID environment. And so our capital
programs, Capital Access Program 7(a)504, a lot of people probably got PPP loans again last year as well as our SBIC investment programs. They've all invested more than $5 billion in small manufacturers just last year in fiscal year '20.

And one of the other things that's really pretty interesting when we start looking at this whole supply chain issue and the manufacturing, you know, a lot of focus gets placed on a lot of the really big companies. But what many people don't realize is that although the large companies do, you know, great work as well the innovation comes out of small businesses in a really huge way.

And, you know, all of the pharma products related to COVID each one of the major entities, you know, Pfizer, Moderna, J&J they all leveraged a small business who was on the forefront of doing the clinical research, the clinical testing to develop the vaccines so doing that biotech discovery was really, really key. And it's not so well known but those small businesses took the frontend risk of developing these solutions.

And at some point they were acquired by larger firms and we know the vaccines through the larger firm names but underneath of all of that it's a small business that has been driving arguably the most critical innovation that any of us have had because it helped us really stave off a pandemic from being much worse than what it already was. So I think that's just a fantastic example of what the prowess is of small business and all the more important reason for us to be supporting small businesses as much as we can.

And, you know, this the issue of the supply chain is really, really critical. And I don't have to tell anybody that, we know it we heard it throughout the session today. And it takes a collective effort of all of our federal agencies to
make the type of improvements that we need to make in the supply chain to get us where we all want to be.

And at SBA we're really big on collaborating so working with other partners and other agencies as a means to deliver support, the needed support, to serve small businesses to deliver solutions. You know, that's right up our alley.

SBA and our resource partners have teamed up for many, many years with the Manufacturing Extension Partnership to support small manufacturers. And we look forward to building on this relationship to address the supply chain challenges that really you heard initially (Liz) Reynolds speak directly to and then our panelists also did a fantastic job of doing the same.

So our efforts are not limited, obviously to just SBA and MEP this is a whole of government kind of all hands on deck approach across the federal space to be as we collectively can tell, the president's executive orders on supply chain and Made in America.

Now at SBA Administrator Isabella Guzman has taken unprecedented action within SBA to mobilize us to design solutions to these key supply chain challenges. SBA's programs traditionally, they'll - they work across all business industries. We normally do not have a particular industry that we focus on.

But given the ambitious goals of this administration to bolster supply chains and American manufacturing, we decided to establish an office specifically on elevating support for small manufacturers throughout their lifecycle.

So this really starts with those that are at the R&D innovation space because that's really, really critical. But we also recognize there's a lot of key players
who already exist who are already providing great products and such in the manufacturing space that need support as they grow and expand and do more automation which is of course, a key to a lot of what we're looking at now.

So on June 9, Administrator Guzman announced the formation of a new manufacturing focused here at SBA. And then earlier this summer near Allentown PA, President Biden announced the creation of the new SBA manufacturing hub within our Office of Government Contracting and Business Development.

And this office will ensure small manufacturers have a seat at the table as supply chain solutions are crafted to rebuild the economy and expand the industrial base. And I don't have to say anything more about the critical nature of having small businesses at the forefront of this effort than the comments I spoke to in the opening that these small businesses are really the driving point behind how we get these viruses ready to move through the clinical stage into actually reality.

And so our new manufacturing hub office is really poised to leverage the collective power of SBA across our business lines to expand our support for small manufacturers, innovative startups. And this includes an intentional focus on those small businesses owned by women, people of color and others who have been historically left behind by federal R&D and investment policy and whose full potential we need to really leverage if we're going to build back better the way that we are all desiring to have the US be with manufacturing.

So SBA right now we're considering a series of very non-traditional, creative, innovative type of approaches to address some of the key issues that we know many small manufacturers are dealing with. And amongst those one of the top
of courses is how am I going to purchase and finance equipment? That's a driving need and challenge for so many manufacturers.

And you know, we recognize that there's significant cash flow challenges associated with buying the equipment, the cost of it, the time it takes to be able to get that equipment up and running and to be productive and to be returning revenue, you know, reasonably in line with the cost of that equipment.

And whether it's buying new equipment or completely upgrading or innovating existing equipment we know that that's really, really a big area. So we are exploring a series of programmatic adjustments that we can do that will leverage our lending and investment capabilities to make some things happen.

And beyond that, our team within the Office of Government Contracting and Business Development but we're also working to leverage the power of the federal government. And we're working closely with our federal partners across the government to shape contracting policies to help more manufacturers increase their revenue and cash flow.

And we look at ourselves in the Office of Government Contracting and Business Development as the revenue team here within SBA helping to identify opportunities to get more small businesses access to the largest federal, excuse me, the largest purchaser of goods and services anywhere in the world which is the U.S. government.

And additionally beyond all of these things, I'm sure many of you have probably heard a lot of discussions about the bipartisan infrastructure bill and the infrastructure bill that has been debated on the Hill.
Well that infrastructure bill also includes billions of dollars in opportunities to help us strengthen the economy and help our local communities through innovative small business growth. Many of these contracts will not only go towards important infrastructure need, but they'll grow network of small businesses that make up our vital supply chain.

And I think that's one of the things that I'm really personally interested in seeing is that we have more and more and more and more and more small businesses who are capable of building manufacturing, engineering products that we need so that we can buy from here, as opposed to being so over-reliant to purchase some of those things from some of our foreign company countries and having that reliance on all that is included in with that which includes even the time gap.

So these are all things that we're focused on and our job at SBA is really to make sure that these opportunities that we are seeing make their way to local small businesses across this country, and it's particularly true to small businesses as such would be listening to hear on on today's session.

And so I just want to thank you again for the opportunity to share a few things with you here about what we've got planned and what we're doing within SBA to support the supply chain, the Made in America initiative and general small manufacturers. So I'll turn it back to you.

Anthony Diaz: Thank you so much, Antonio. That was very interesting. And also I just have to compliment you on your name as we're so closely aligned in names.

Antonio Doss: Yes, it's really pretty cool. I think it's it's almost like a first for me to have someone this close. It's very (unintelligible).
((Crosstalk))

Antonio Doss: It's great.

Anthony Diaz: Let's see. So we are very - we're a little over the hour and I think that a few of our colleagues at to drop off. I do want to give Anna who I promised the last word on that question of if you had to recommend something for some of the manufacturers and those small businesses that are joining in on today's call, what is one thing that you recommend that they do?

We've heard about the challenges that folks are experiencing from the increase in costs in labor and finding quality labor and needing to adapt from just in time inventory management to to other strategies and ordering more in bulk and also bringing in in-house solutions like, a, you know, from the painting to to using additive manufacturing to, you know, develop needed pieces. Anna, if you can tell us your your one recommendation for audience I think then we can close the show.

Anna Mangum: Oh, Anthony, you know, one solution for me is a hard thing to do. You know (unintelligible).

((Crosstalk))

Anthony Diaz: Oh, that's fine. That's fine.

Anna Mangum: ...I could have said it any better than Mary Ann. I think being collaborative is a critical part, giving value to the relationships you have, not just with your customers and your suppliers, but also to those industry groups and those that are here to support industry like the MEP Center.
But there are so many others that support economic development, like the SBA that are here that want to help, that have resources. And so networking and finding the network that can help you best.

And then that think outside the box I've heard so many innovative answers from clients in my 13 counties that have done so many outside the box answers to their challenges with supply chain, everything from redesigning their product to that additive manufacturing example, making small parts out of the purchasing department with a 3D printer on a desk.

And so I think in this time it's causing us to to really be innovative and that's the part I think I find exhilarating, but collaborate and be innovative.

Anthony Diaz: Thank you. And, you know, what, I...

Anna Mangum: And you're not alone.

Anthony Diaz: ... we - I've seen this question a few times. And so let's answer it. So based on what you've heard so far is there a shift towards lean and just in time mindset or is that just a blip? And I guess I'll I'll start with you Anna since you had mentioned that and maybe we can go to Gary.

Anna Mangum: Oh, okay. So I think that across the majority of my clients in terms of inventory management, none of them are seeing safety in just in time.

Anthony Diaz: Okay.

Anna Mangum: And so, you know, I think we saw some other comments about how is this going to cause potential inflation in the market? And I've got clients giving
feedback or dousing themselves and making decisions, saying, "Are we shooting ourselves in the foot, you know, are our stockpiling of inventory, is this causing market inflation?"

And I think at the moment, because there is no long term vision for certain markets of raw materials now that's cascading in certain supply chains, they don't know how to calculate that risk. And so they're just saying, "Well not for me. I'm - I need to stockpile inventory."

And so and again, I'm referencing really small to medium sized businesses, not those connected to multiple facilities across domestic or international larger organizations. A lot of the ones that I've connected with on their supply chain issues are privately held. They're local. They are personally owned and - and they're really insecure with just in time right now.

Anthony Diaz: Gary, same question to you. If you could just think, do you think that just in time is does this adaptation is just a blip or is it here to stay?

Gary Steinberg: Great question, I think it's it depends on how long the - we have this disruption of supply chain because companies always want to employ just in time. It's just definitely a balance sheet and a cash flow advantage, you know, cash over cash.

However, when I look at, you know, we talk about increasing inventory one recommendation I would make is that we don't - we shouldn't be looking at increasing inventory across the board. And I think what we have to be, you know, we have to be able - my engineering background kicks in a little bit and kind of look at, "Hey, here's the data. What's our critical price?"
I always look at classifying the price we have an inventory as an ABC. Your A parts are critical to your operation, critical to delivering product. Your B parts are kind of in-between. They may not be custom. They may be available with other suppliers and season your commodity.

So when we talk about an increasing inventory, we need to really emphasize our A products. That's, you know, they may be high cost, but and they may be custom but that's the greatest exposure we have in the supply chain.

So we're only focus in on the A parts. The Bs and Cs do what you need to do. But again, let's not think about increasing our inventories all across our inventory, all across the board. You know, do a little bit of a you know, little bit of analysis when you get into making that strategic decision.

Anthony Diaz: Thank you, Gary. And you know, this is a topic, I know this is a cliché line. This is a topic that you could probably have - that you can have days long Webinars and conversations and discussions and roundtables, research papers, et cetera, on. So I just want to thank Elisabeth Reynolds, Risa Baron, Anna Mangum. Mary Ann Mauldwin, Gary and also Antonio Doss. Thank you so much for your time. I really - I truly appreciate it. We really appreciate it.

And again, I - one point that I'll make is that US interagency partners are here for for the companies that are on the line. So MEP, SBA, EXIM, the Commercial Service and Census. You know, we - I think I've heard networking collaboration, we're here for you if you need.

And I'm going to turn it over now to Wendy to give us some closing remarks and bring us home. Thanks. Thank you all.
Wendy Peebles: Yes thank you, Anthony, excellent Webinar. a lot of great and valuable information was shared today, so certainly want to thank our special guest from the White House, Elizabeth Reynolds, sharing President Biden's manufacturing agenda, our export panel on supply solutions and our federal agency, SBA discussing the federal services that are available for networking opportunities and expanding your business operations.

So I would just like to say we're glad that you joined today. Thank you for joining us. Please complete the evaluation. We value your feedback and that assists us in planning future content.

So once again, please complete the evaluation and please visit the Census Web site for additional outreach material on Webinars coming up throughout the year. So this completes the Webinar. Thank you for joining.