HP INC.

HP Inc Securities Analyst Meeting

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FEMALE VOICE: Ladies and Gentlemen, please welcome Beth Howe, Investor Relations.

MS. BETH HOWE: Good afternoon, and welcome to HP Securities Analyst Meeting. Thank each of you for coming here today, both in New York and for those of you who are joining via the webcast. On behalf of the entire management team, we're excited to reflect on our progress, but more importantly, to talk to you about the opportunities we see ahead.

For those of you here in the room, I hope you had a chance to see the Innovation Showcase upstairs. Hearing about our innovations is important but seeing them firsthand really brings it to life.

No investor event would be complete without our legal disclosures. So please turn your attention to the screen for some announcements about important disclosures and information related to our forward-looking statements and use of non-GAAP financial measures. We want to remind you that elements of today's presentation are forward-looking and are based on our best view of the world and our businesses as we see them today. Refer to the slide presentations on our website that accompany today's meetings for these slides and the associated reconciliations of the comparable GAAP information.

Today's webcast, videos, and presentations will be available on HP's Investor Relations website. The presentations for each speaker will be posted at the beginning of their session. The only exception to that is Steve Fieler's presentation, which will be posted at the end of his talk. Now let's turn to the agenda.

We will start with Dion, who is going to talk about our business, our progress, and his perspectives on HP's future. Following Dion, we will have the segment presidents Alex Cho, Enrique Lores, Stephen Nigro, and Christoph Schell, here to talk about their businesses. We'll start with Personal Systems, then move on to Print, and 3D. We have two short breaks scheduled for refreshments, and also to give you a chance to see the Innovation Center if you haven't yet had a chance to go up there. After the second break we'll come back and have Steve Fieler talk about our financial overview, as well as provide our FY '19 outlook. Following Steve's presentation, I'll be joined onstage with all of the speakers for a Q&A session before we head up to the reception.

Now, before Dion takes the stage, let's look at some of the innovation driving our business.

Please roll the video.

FEMALE VOICE: Ladies and gentlemen, please welcome Dion Weisler, President and CEO.

MR. WEISLER: Thank you and good afternoon.

AUDIENCE: Good afternoon.

MR. WEISLER: Oh, there we go. It's nice to be in an intimate setting here. It's a presenter's worst nightmare when the AV fails on you. And it's why we believe in the power of print. This is my security blanket just in case. Welcome, and thank you for joining us here today. It's great to be with you all.

The New York Stock Exchange is truly special. It's one of the most storied business institutions in history. At 201 years old, it's one of the few organizations that makes us, at age 79, look like youngsters. I remember when we were here two years ago, ringing the bell, to celebrate our first-year anniversary as HP Inc.

Looking back at the past few years, I'm enormously proud of how far we've come, and how well we've executed. Our results reinforce our ability to consistently execute and win in the marketplace while simultaneously fulfilling the commitments we made to our shareholders. But what I'm most excited about is what you will learn today. That we're just getting started.

We're going to use the next few hours to talk about what's next. Looking across our portfolio, there are tremendous opportunities for us to continue driving innovation and long-term sustainable growth. These opportunities are fueled by trends that are transforming not only the categories where we operate, but the world at large. We are uniquely positioned to capitalize on these trends with a powerful innovation engine that is turning customer insights into experiences that amaze. We are truly energized about the future of HP, but I must remind you. We're not taking our success, our scale, or our leadership for granted.

As an organization, we remain humble, grounded in the needs of our customers and our partners, and relentlessly focused on execution. We know there'll be challenges and headwinds. There always will be. But as a team, how we execute regardless of market conditions is what separates us.

Our goal for today is to provide you with a clear understanding of our plans for Fiscal '19 and beyond. By the end of today, I believe you will see what we see. A bright future for HP. Before we talk about where we're going, let's talk about what we've delivered.

The last time we were together, we told you we would deliver predictable earnings and cashflows as our baseline. We said we would outgrow the market while simultaneously positioning the company to capture the future. I'm very pleased to say that we've delivered across these measures and our strategy is paying off. Year-to-date, we've achieved 13% revenue growth, and 22% non-GAAP EPS growth. Our free cashflow is similarly impressive, with $3.3 billion year-to-date. We said we'd return 50% to 75% of free cashflow to investors in the form of dividends and share repurchases. And through Quarter 3, we've returned more than $2.6 billion, and will likely deliver more than 75% for the full Fiscal '18.

These results stem from strong operational performance, a disciplined investment strategy, and prudent cost-management. They're also a result of a deep customer understanding that is helping us to engineer incredible innovation across our portfolio. We remain committed to our capital return strategy and you'll hear more from Steve about this a little later on.

We also said that we would target deliberate investments to accelerate our growth businesses. As part of our aggressive pursuit of the contractual copier market, we acquired Samsung's printing business, gaining technical differentiation, incredible IP, and a talented, world-class team.

In August, we built on this by announcing our intent to acquire Apogee, one of Europe's largest office equipment dealers, who specialize in manage-print services, providing us with deep solutions and service expertise and a faster means to scale this business and tap into the profit pools that they offer. These are two examples of how we consistently use a returns-based framework to determine where and how we will invest in strategic areas.

And finally, we've committed to building the business for the long-term. Our business and financials are strong. They're built upon the innovation, execution, and commitment of every single member of Personal Systems, of Print, of 3D Print, as well as the regions and functions that are driving and empowering our future. To understand where we are in HP's reinvention journey, we must look at the progress of the business units. Let's start with Personal Systems.

A few years ago, some had written this category off; we didn't. Through a combination of industry-leading innovation and disciplined execution, we've reinvented this business. We're growing profitable share and driving broad-based, top-line growth across regions and categories. And for the past 18 consecutive quarters we've outpaced the Personal Systems market.

I want to emphasize this is profitable revenue growth, and that continues to be our priority. We delivered impressive revenue growth for seven straight quarters. And year-to-date, we've seen a 19% increase in operating profit, reflecting our relentless focus on shifting our mix to higher value segments and delivering operational excellence.

Hopefully you've had a chance to see our new HP Spectre folio unveiled this week hear in New York. It's an engineering masterpiece, blending the craftmanship you'd expect from a luxury good with the functionality of a sophisticated, next-generation PC. I mean, let's just take a look at this gorgeous device. I kind of have to hold it like that, otherwise it's so thin you can't see it, right? [laughter] But this product is not just wrapped in leather. It's made of leather. And the teams have spent the past… four years ago was the first time I saw this concept.

Four years ago, designing a product that could work as a laptop, recognizing that customers would want to watch in media mode, and then be able to convert it to a tablet without doing origami, or yoga, or twisting your product around. It's absolutely stunning. 18 hours of battery life and an incredible innovation from the team. Alex, you and the team should feel very proud. With the Spectre folio, we're once again setting a new standard for Personal Systems innovation. And perhaps when Alex talks about it, that's when the President's going to tweet at 2:18, I don't know, maybe.

We have a pipeline of innovation that gives me great confidence in our ability to continue to amaze our customers and out-perform the market. And it's not only with design and new form factors where we're innovating and differentiating ourselves. We're also leading in technical prowess, especially in areas like security, where we have created the most secure PCs in the industry. We're transforming our portfolio with new services and solutions, including accelerating the shift to more contractual with Device as a Service.

All of this adds up to a large and growing total addressable market of $320 billion. This is an opportunity that the Personal Systems team is well-positioned to capitalize on. I'm energized and I'm confident about the future of this business.

Now let's turn to print. We've had, to put it mildly, an impressive year. Print Supplies have not only stabilized, but the business overall has been consistently growing for the past six quarters. This team is truly reinventing and igniting a print renaissance. I'm also pleased that our supplies revenue is in line with the expectations that we set, and that our four-box model continues to drive predictability.

We're executing our strategy and innovating across home, office, and graphics, resulting in us taking profitable share in a highly competitive and fragmented market. Total print revenue is up 12% year-to-date, with growth in all regions and across supplies and commercial and consumer hardware. Print units are also up 13% year-to-date, and the business fundamentals are strong, both organically and with the addition of the Samsung print business. In home printing we're leveraging customer insights to reinvent categories and create new opportunities, just like we did with Sprocket.

Last week, here in New York, we announced HP Tango, a voice-activated printer that incorporates all the features and the functionality of a larger model, while blending into today’s style and décor with an entirely new form factor. When you entered the Innovation Showcase there’s a fair chance you might have missed it, because it just blends so naturally into a modern home setting. It’s kind of invisible. What I love about Tango the most is that it’s designed to work seamlessly with your smartphone. Everything is driven through the smart app. The total experience has been simplified. No drivers, no data cables, and with Instant Ink supplies, no worries, mate. It’s an Australian thing. Every time you say no worries, you got to add mate on the end.

In office print, we’re also driving innovation across both product and go-to-market. We’re accelerating the shift towards Managed Print Services and contractual business models supported by investments, like our Apogee acquisition that I spoke about earlier.

In Graphics, we’re continuing to drive the analog to digital transformation. We’re seeing growing opportunities across the industry, propelled by the trend towards personalized products and experiences. Demand for our digital press is strong. Just last week, at one of the industry’s top packaging shows, we saw more than 10 high-end presses, including every single unit from our booth floor.

As you well-know, print is an annuities-based business. We’re investing for today and placing the right products in the market and creating a stickier, more valuable relationship as we advance our service offerings. We’re well-positioned to outperform the market and deliver long-term returns. And just like Personal Systems, we’re just getting started.

Shifting to 3D printing, this is one of our most exciting and disruptive businesses. 3D Print is an incredible opportunity for our future, as we aim to disrupt the $12 trillion global manufacturing market. While this business is still very much in the early stages, we have the combination of IP, an expanded platform and portfolio of products, customers, scaling for production, and a growing ecosystem of partners. In less than two years we’ve become the number one player in commercial plastics printing. It’s quite unbelievable. We’re especially encouraged by the volume of final-part applications we’re delivering across verticals, including the transportation, industrial, medical, and consumer markets.

We’re also pursuing new markets and new materials. Last year, right here at SAM, we said we would launch our 3D metal printing technology in Fiscal ‘18. And as promised, just a few weeks ago, we introduced HP Metal Jet, a breakthrough technology designed for mass metal market production. It’s up to 50 times more productive than other solutions and delivers superior economics and manufacturing-grade, production-quality parts. In the Innovation Showcase, you’ve seen some of the remarkable parts we’re already producing in partnership with GKN. They’re the leading provider of metal powder parts for innovators like Volkswagen.

We’re reinventing the way the world designs and manufactures, to drive not only an industrial revolution but a sustainable one. By digitizing the supply chain, we’re enabling just-in-time delivery, and we’re helping create a world without warehouses, without inventory, without waste. You’ll hear more from Steve and Christoph about our long-term innovation roadmap and how we’re democratizing manufacturing. This is not only an amazing business and technology today, but in my mind there are few other technologies with this much potential to fundamentally change every facet of the manufacturing industry.

Across Personal Systems, Print, and 3D Print, there is no doubt we’ve made incredible progress. But we’re never satisfied. We’re constantly raising the bar to deliver excellence in our business and in our product innovations. You’ll hear more on this in each of our presentations today.

Now I want to spend a moment talking about some of the trends that we see in the market. Throughout the year, I have flown more than 340,000 miles, meeting with thousands of customers, partners, and employees across the globe, witnessing the digital transformation of daily life. My team and I have seen firsthand the economic, social, and technological trends, creating both pain points as well as opportunities to innovate with purpose. Let me touch on a few of the most significant trends, including the blending of our personal and professional lives, the increasing importance of security, and the shift to everything as a service.

The first trend is the blending of our personal and professional lives. And at HP, we like to call this One Life. The shift is being accelerated by the changing face of the workforce. Millennials are now the largest generation of workers, and by 2025, which is not that far away, three out of every four workers in the global workforce will belong to the millennial generation.

The modern workforce wants to work remotely on devices, and with services, that reflect their lifestyle. They want the flexibility to work from a café or to order DoorDash or Uber Eats to their office. They are the driving force behind the growth of co-working spaces like WeWork, who, incidentally, is an important HP partner. The office of the future needs to be equipped for a growing demand of multiform-factor-connected devices, enhanced collaboration tools and solutions, and the ability to print securely from anywhere and on any device. With the workforce, workplace, and work styles rapidly evolving, we are delivering devices and experiences that solve our customers' most pressing challenges and unlock opportunities to win in this new era.

With the number of connected devices dramatically growing, consumers and organizations alike are producing and consuming an increasing amount of valuable data, making devices at the edge vulnerable and attractive targets for security breaches. Every 4.2 seconds, a new piece of malware is released. According to Symantec, there was a 600% increase in IoT attacks just between 2016 and 2017. And the annual toll of security breaches on the global economy is estimated to have reached $600 billion last year.

Coupled with the fact that analyst firms like IDC tell us that there will be up to 80 billion connected devices by 2025, you begin to see a recipe that could easily end in disaster. As a result, investments in security are increasing. Instead of just purchasing add-on security features, consumers and businesses are investing in end devices that have greater built-in security, engineered from the ground up.

And this is our approach, and it's the reason why HP is the clear leader in security. We have the most secure printers and personal systems in the world. That security leadership is a huge differentiator for HP and a business imperative for our customers. As you see all around you, the world is being defined by services and on-demand business models. The service economy is rapidly reshaping how customers and corporations buy and ultimately use everything. Moreover, this shift towards services is changing organizations and creating new business models within those companies themselves. Go-to-market motions are accelerating from transactional to contractual, and this enables customers to shift from a one-time cost to an on-going operating expense. It also allows organizations to offload the time and expense of deploying, managing, and securing IT infrastructure.

For HP, we built our services expertise in managed-print services, providing a really solid foundation to accelerate MPS and Device as a Service. Today, we have a robust pipeline in both. For consumers, we offer services like Instant Ink, strengthening our original supplies business and supporting reoccurring revenue. In my mind, services are the one area we need to push to grow even faster and gain advantage.

We're working to expand our go-to-market reach of our channel partners, to quickly meet the demand that we're seeing from our win customers. Organizations want technology that helps them attract and retain talent, while protecting and securing their environments. They also want this delivered through and as a service model, enabling them to scale up or down as their business needs change. These are just a few of the important industry trends shaping our business and our path forward.

What has not changed is our strategy. This remains consistent and spans core, growth, and future. We're leading in the core, setting ourselves up for sustained growth and building momentum to capture the future.

Let me start with our core businesses, where we operate in an incredibly large total adjustable market, the $300 billion. This is where we make most of our revenue and operating profit today. While the traditional PC and print markets are expected to be relatively flat, we see opportunity to segment the market, to hyper-segment the market, and that creates opportunity to capture pockets of profitable growth. We will aggressively defend and innovate in our core, as well as target opportunities, where we're under-indexed. We will also innovate in design, with new products like the Spector folio and the HP Tango that I mentioned earlier, as well as innovate in service-based business models.

Profits from the core enable us to pursue growth in natural adjacencies. And these are areas that we expect may take several years to play out. We're selective, and very deliberate when determining what areas to pursue and how we're going to win. There are three strategic growth opportunities. These include disrupting the contractual copier market, leading the analog to digital transformation in the graphics industry, and shifting to Device as a Service in Personal Systems, is part of commercial transformation.

Our growth pillar is the bridge to the third pillar of our strategy, the future. This is pure innovation and category creation. We're making investments in research and development and building new businesses today that will set us up for the long-term. The focus here is in 3D Printing, and next-generation, immersive computing experiences. In 3D Printing, the opportunity is to accelerate the fourth industrial revolution, and fundamentally transform the manufacturing industry.

Spanning across the core growth and future pillars is our focus on services and solutions. Everything from Instant Ink, to Managed Print Services, to Device as a Service, and all the way through to 3D Printing is an opportunity to be managed and delivered as a service, enabling us to tap into profit pools and build a more intimate relationship with our customers. We're confident in our strategy, and believe it enables us to engineer experiences that amaze and deliver attractive, long-term returns for our shareholders.

As we continue our reinvention journey, it's vital that we execute on our commitments to deliver reliable returns, cashflows, and the opportunities for long-term growth. By innovating with purpose and executing against our strategy, we are continuing to build trust in our brand and drive long-term shareholder value. As we move into Fiscal '19 and beyond, what you can expect from us is clear.

Firstly, in our core, deliver predictable earnings, and capital return to shareholders. Secondly, to support growth, we will target investments that deliver sustainable growth over time. All of which will be evaluated using returns-based framework to ensure that we're making smart decisions and provide value for our investors. And finally to support our future, we're positioning ourselves to drive long-term value creation.

As you well-know, the industry and the global political, trade, and economic environments continue to change every day. This team is the best in the industry when it comes to planning and executing, regardless of market conditions. We work hard to leverage change, to create opportunity. And you can expect us to use this muscle to gain long-term competitive advantages. In this business, industry risks and headwinds will never go away, but how we successfully and consistently manage within these changing market dynamics is what separates us.

Of course, one of our greatest strengths is operational excellence. We would not be in the position that we are today without it. From driving productivity improvements to managing our supply chain, operational excellence is constantly in focus. And in today’s world, to be a truly relevant and sustainable company, how you go about doing things is just as important about what you do. I hear this repeatedly. I hear it from investors. I hear it from partners. I hear it from customers, and I hear it from employees every single day. They want to support, they want to work for, they want to buy from companies that do the right thing and operate with purpose and integrity. For HP, this is not a new concept. We see it as a business imperative and something our founders were passionate about almost 80 years ago.

Creating a lasting sustainable impact on our people, the planet, and communities, it’s in our DNA. It’s who we are, it’s what defines us, and it’s what separates us. This year, HP was ranked number five on the Barron’s Top 100 Sustainable Companies list. And it’s rewarding to see the impact HP is creating, and I see the opportunity to do even more.

For us, our impact starts with people. We’re reinventing the standard for diversity and inclusion, because it really, really matters. We have one of the most diverse board of directors and leadership teams in technology, which flows through the global organization. With the planet, our aim is to grow our business but not our footprint. We’re transforming to drive a more efficient, circular, and low-carbon economy, and supporting our customers and partners to do the same. And finally, we’re a catalyst for positive change in the communities where we live, where we work, and where we do business.

Technology is a great enabler, connecting people to a world of opportunity. And that's exactly what's in front of us at HP, a world of opportunity. So let me close with what to expect in Fiscal '19 and beyond. This company's future is bright. By staying true to our strategy, innovating with purpose, and continuing to play our game, we aim to deliver long-term shareholder value. We'll remain humble and focused on our customers and our partners. We will never be fully satisfied with our success. There will always be room to do better, to raise the bar, and to deliver more value and innovation to our customers. It is in this spirit and determination that drives us all to keep reinventing.

And with that, I'd now like to welcome Alex Cho, President of Personal Systems, to the stage. During the past two decades he has held numerous positions at HP, including roles in Personal Systems, Print, and our Services business. I've known Alex for many, many years. And he is a tremendous addition to our leadership team, with a passion and energy and intellect and a genuine-ness all his own. Alex, come on up, the stage is yours.

MR. ALEX CHO: Okay. So yes, it has been two decades; most people get surprised by that point, but yes. Thank you, Dion and thank you all for joining us. It is great to be here. I did join this company 23 years ago. I remember from Stanford. And at the time when I was thinking about companies, Hewlett Packard was the place to be. It was an icon of Silicon Valley. And what I remember, more importantly, was that there was an incredible legacy of innovation that HP stood for. And I can tell you that after many jobs, yes, in many years, I'm more excited than ever to be a part of this team. This is a great time to be a part of what we're doing. And one of the main reasons why? I'll tell you. Innovation is alive, it's thriving, and I'm happy to share with you about what we're doing.

I want to talk about three things while we're together. One, is I'll give you an update on the progress we've made on the plans that we laid out last year. Secondly, I'll talk about the large and growing market that we play in, and that we plan to execute against as we go forward. And third, I'll tell you about how we're going to go drive our business to take advantage of those growth opportunities and continue to out-perform the market.

So last year, we shared a plan and a strategy for growth, and we have made great progress. Two things, we are going to reinvent PC experiences, and transform the portfolio into higher-value, higher-margin segments.

We are also demonstrating discipline execution across all facets of our business, which has enabled us to mitigate commodity pressures, maximize the return on every invested dollar, and grow profit. And we are driving strong top-line growth, through incredible innovation. We have consistently outgrown the market, and we plan to continue to do so, regardless of the changes in the broader market environment.

Now our ability to outperform the market starts with putting our customers first. In the eyes of our customers, the HP brand has never been stronger. Our net promoter score is up 12 points in 3 years, putting us on par with Apple, and now making us number one among Windows consumer brands. Revenue's up 14%, year-to-date, with balance growth across all three of our regions. And importantly, we are growing in the right places, and prioritizing profitable growth.

To that end, we've delivered continuous profit improvement every quarter this year, and we have achieved HP's highest market share ever. Now to be clear, we're not chasing share for share's sake, but in the segments that choose to play, we have very strong momentum. And as much momentum as we have, my boss Dion continues to remind me that three out of four PCs are still not HP, so we've got a lot more to go, and these results stem from world-class execution across Personal Systems. Our focus on customer-driven insights enables us to create differentiated innovation that's meaningful for customers. And our products our becoming increasingly recognized, not just by traditional PC and technology experts, but also by leading design organizations from around the world. And as focused as we are on customers, I'll tell you, we are equally focused on costs.

Cost management is something in this business we take very seriously, and there's not a day that passes that we are not looking at every space that we can optimize how we run this business. And it's been integral to how we navigate through a volatile environment. Year-to-date, we have mitigated over a billion dollars in headwinds, with the strength of the HP brand, enabling us to increase pricing, to offset commodity cost-pressures. And the strength of our supply chain also has a big part in our business.

We deliver two PCs every second, every day, worldwide. And we were recently recognized by Gartner, by, as being one of the top supply chains globally. And one of our most important strengths is our channel. Our channel provides us significant go-to-market reach, and differentiation. I've been in our Services, Print, and PC business, as Dion mentioned, and I can tell you that our channels are a key differentiator for us to deliver that last value to our customers.

Collectively, these world-class capabilities are enabling us to continue our progress against our strategic priorities. We are accelerating at higher-value segments in our core. We now have the fastest growing premium PC brand in the world, and we have gained three points of share in premium over the past two years. In commercial, we've gained 2.7 points over the same period of time. We are also gaining steam in displays, which is a profitable segment and where we have a lot more upside opportunity. And at the same time, we are expanding into higher-value, higher-growth categories and services.

Our Device as a Service pipeline has grown by more than 50% in the last year. And as our pipeline has grown, which is good, so, too, have our customer win rates. We're up double digits year-over-year. We also continue to make progress in vertical solution segments like retail, where we are now the market leader. Ultimately our momentum can be traced back to one thing, and that is our passion for innovation.

What I love most about this business is the opportunity to create incredible experiences for our customers. And this is a great time for us, because we've got great innovation that's flowing through our entire portfolio. Across the breadth of our portfolio, we are delivering industry-leading firsts and bests. Firsts and bests, that's our mantra inside. Our EliteBook x360 packs all the power and durability you'd expect in a commercial PC. It's a commercial PC, yes, and it's just as beautiful as any other devise out there on the market today. For that millennial workforce, that's your device. It's the world's smallest business convertible.

Our Spectre lineup continues to be an icon of the consumer landscape, both in terms of design and performance, another important “and.” Our most recent x360 has the world’s longest battery life in a quad-core convertible. It’s an important “and.” And we’re building an exciting gaming ecosystem.

We recently unveiled the world’s first gaming headset with, listen to this, earcup cooling technology. If you’re a gamer, you know why that’s important. If you’re a gamer, you will want this. It’s amazing the response to this product. And the list goes on. Let’s take a quick look at HP innovation in action.

Okay. I see some of you dancing, I’m not going to dance for you. And that’s just a glimpse into why this is such an exciting time for our business, and importantly for our customers. And there are a lot more opportunities for innovation as we look into the future.

Let me now look forward and talk about where we see the market going. There are a couple of things I want to call your attention to on the slide. First is the total addressable market. Dion mentioned it earlier, it’s $320 billion, and will continue to grow as we go forward. We plan to continue to grow profitable share in that space. The other key element is to notice the composition of the market. In compute endpoints, we are well-positioned to continue to grow again profitable share.

As well, in Services and Solutions, they present attractive opportunities for us to expand in higher-growth, higher-margin segments, where we are currently under-indexed. These segments provide opportunities as the continue to get bigger, to unlock new sources of revenue and profit for us going forward. And this expanding TAM is fueled by a series of trends, some of which Dion spoke about earlier.

I want to call out a couple of the ones that are most important for us here in Personal Systems. The first is One Life, 67% of people use their devices for work and for play. What that means, is that they’re expecting an exigence that span across their day, in a seamless experience. At the same time, people want devices that connect anywhere and anytime, an expectation that will continue to grow as we move closer to the world of 5G. And as devices become more connected and more mobile, which is good, they must also become more secure.

There's a growing recognition that endpoint security, not just security but endpoint security, is more important than ever. And people expect devices to become more intelligent and personalized, which will reshape the relationship that people have with their technology. Take, for example, voice. By 2020, almost half of all searches will be via voice. That's a big trend. And consistent with the broader services trend that's sweeping across all aspects of life, compute will increasingly be available as a service. Now the convergence of these trends will create amazing new experiences. And I want to talk to you about a few examples where they're particularly relevant to us.

Let me start with one that's very close to my heart, and that is the office of the future, having led the commercial business here at HP for the past several years. We're all familiar with the traditional office. It was rigid, walled, a cubicle farm, and primary for individual work. I like to call it Dilbert-land, for many of us who understand. There you go, Dilbert-land confirmed by FEMA. I guess that's an amen to that point. Okay.

So that demarks traditional office and the office of the future is very different. This change is being driven by dramatic change in workforce, workplace, and work styles. It's more open, it's agile, it's connected. New technology fosters seamless collaboration and interaction. And guess what, these aren't just words. As we talk to customers, as we talk to employers, they are reminding us and telling us that these things are becoming more important than ever in attracting the next generation of talent. In fact, data shows that an exciting work environment and modern, exciting technology, is a bigger factor than even compensation for many millennials.

Employee engagement is more important than ever, but it's not just the physical office that's changing. People no longer work just from nine to five, from the address on their business cards. They want flexibility to work from anywhere, something I can attest to. With four children of my own, it's been important for me to have the flexibility to work anywhere, including in between swim events at swim meets, one of the most inefficient sports as a parent, for many of you who know. Shorter time, long sessions. Regardless of where you work, the office of the future is a place as well that security matters. And HP is creating the office of the future today and we're excited about the opportunities ahead.

Gaming is also undergoing its own exciting transformation. Some people hear gamer and they still think of a single guy in his parents' basement, playing hours on end with no connection to the outside world. The gaming world has changed since my old days of playing Adventure on my Atari 2600, I still remember those days. Something I'm constantly reminded of every time I watch my son playing Fortnite with his friends.

Today, gaming is a global phenomenon. This is incredible. If you haven't seen some of the stats, this past summer's Overwatch League finals, which aired in primetime on ESPN, drew over 10 million viewers across all platforms, 10 million. Last year's League of Legends final drew three times the number of viewers as the Stanley Cup. So this is anything but a solitary pastime. And as the popularity of esports grows, so too will the ecosystem of technology that surrounds the gamer.

New software and cloud platforms will enable gaming from any device, any time, and the entire gaming experience will become more immersive and social. This future is already taking shape, as many of you know, and we are very much at the center of this action.

And one more area that is changing is retail. In the past, most retail environments looked largely the same. Cookie-cutter experiences built to facilitate basic transactions, and often with long lines and limited technology.

As each of you know retail has been undergoing a transformation, underpinned and enabled by technology. It is becoming much more personalized and the boundaries between online and offline are being erased. Seamless, omni-channel experiences are becoming the norm. Data security is top of mind, and services are growing more prevalent. All of this presents new opportunities for us to deliver innovation that enhances the shopper experience, which we're already capitalizing on.

So our strategy is designed to create these future experiences. At our core, our ambition is to create the world’s most exciting devices, and we’re going to focus on key segments like premium, gaming, two-in-ones, work stations.

In growth, we are focused on creating the world’s most intelligent services and solutions, and in the process, making HP a more strategic business partner for our customers. For the future, we are creating new categories through immersive experiences that transform existing workflows and will expand our total addressable market overtime.

All of this is underpinned by a set of world class capabilities that we will continue to invest and build in. Customer insights, supply chain rigor, channel partnerships, security leadership and increasingly, analytics and A.I.

So, let’s start in the core. We are focused on making the world’s most exciting devices, and we will continue to do so by creating and inventing and reinventing the P.C. experiences that people have in front of them, led by superior insights. As an example, we spent time studying creative professional segment. They need power, yes, and they need versatility, and you know what? When you watch creative professionals, guess what? They’re creative. They want devices that are a reflection of who they are.

Our Z Book Studio X360 is the world’s most powerful convertible PC with the world’s brightest 4K laptop display. Now, if you’re a creator, that is music to your ears, because you’re not just working at your desk. You want to be out there. You are working outside. You are working on set. You are actually often in the coffee house, from what we’ve measured, and a bright screen makes a difference because it allows you to stay productive, even when you’re not at your cubicle, so the ability to work anywhere you want is important, and we enable that. Having this much power means that you can get that CAD file done faster than ever before, which gives you back precious time.

The versatility and beauty of this product is attracting the hearts of the creative community. One example of the importance of insight-driven innovation in our core.

Now, no creative professional wants to be hacked and so we are focused on enabling the world’s most secure and manageable PCs, an imperative in today’s world. The combination of these things is enabling us to shift our mix to the most attractive segments. For example, our unit mix and premium PCs again are up three points year-over-year with significant opportunities for us to continue this shift going forward.

In the core, we are relentlessly managing costs and quality. Our annual intervention rates have dropped consistently. Now, I usually like charts that are up and to the right, but this is one case where a downward trend line is a very good thing. Fewer interventions required per PC. We are razor focused on cost and quality day in and day out. I personally look at hinges and A cover and C deck and the teams go through that day after day because there’s always an opportunity for us to get better operationally.

So, let me talk about premium a little bit. Put simply, we are re-defining what a premium PC is, both in the office and at home. In commercial, I mentioned the elite book X360 before, which enables the kinds of experiences desired in the office of the future. Again, it’s the world’s smallest business convertible, and, because we know the office of the future is not just behind a cubicle, it’s also about working outdoors. It’s also about working in public places. It’s also about being connected, and so our Elite Book X360 has the world’s brightest screen, anti-glare panels, integrated privacy screen and gigabit class 4G LTE. That’s a lot of words, but that means it’s connected. It’s fast, allows you to stay productive. By the way, that’s the device I use in between - - events. I did this Saturday.

In Consumer, Dion, mentioned the HP Specter folio, a device that reinvents the PC and delivers an experience unlike anything in the market today. It blends exquisite craftsmanship with modern technology. The Specter folio sets a new benchmark for convertible PCs, with an innovative form factor that goes beyond other two-in-ones, again, because it gives you more than any convertible out there in the market.

Now, as I hold this PC, I have to tell you, with 4G LTE and 18 hours of battery life, it’s really built for the always connected, always on experience our customers are looking for. You know what that means? That means that you can carry just this and not your AC adaptor, and you don’t have to be hunting for power cords and power outlets wherever you go. Go watch people. They're always looking for those power outlets.

Beyond all of that, there's something about the device that is truly special and you can't grasp until you actually hold it yourself. This is a PC experience truly like none other out there. What I love about this device is actually, it reminds me of the first briefcase my mother bought me when I started HP. I still remember it. I still have it. It was a leather briefcase. She got it for me, and I remember her saying, I got this because you deserve something that reflects you. This device captures that same type of feeling. We are raising the premium bar over and over again. I encourage you to check out this product during a break. The market is responding to our premium focus and innovation. HP continues to out-perform the competition and gain profitable share.

We're doing the same in gaming. Our Omen brand is hitting on all cylinders. When we launched our latest Omen 15 laptop on JD.com a few months ago, we sold out the first 9,000 units in 20 minutes. For those of you doing the math, that 7.5 PCs a second. That's great. That's cool, and we've got a lot more coming. We are also rapidly building out our broader gaming ecosystem, with a full portfolio of devices, yes, and accessories and software. What is exciting is that going forward, we are using AI to create opportunities for personalized coaching and other services. What's remarkable is that just a few years ago, gaming was a small business for HP and we have now grown over 10 points of share in the past three years.

Now, no discussion of the PC category is complete without talking about security, so let me just distill it down to a few things that I want you to take away today. First, security has never been more important. We hear about it every day. Research shows that every month, you receive 16 malicious emails. The frequency of security breaches is increasing. Successful breaches are up 27 percent annually, and at the same time, hackers are becoming more sophisticated. This is why we believe that every PC decision is a security decision.

And second, against this backdrop, HP is leading the industry. We have the most complete security stack. Our security is built-in. it's not something that you have to download or bolt on afterwards. We protect your device, your identity and your data. And make no mistake. When someone chooses a non-HP device, they are not getting the best possible security protection. HP makes the world’s most secure and manageable PCs, and third, our security leadership is accelerating our business. One example is our Sure View integrated privacy screen. The attach rates on these are now up over 30 percent. Just one example. HP is winning with security and we’re focused on continuing to lead in this area because the market and our customers need it.

So, that’s how we’ll continue to grow in the core. Now, I want to walk you through how we’re attacking growth opportunities and solutions in services. Our retail solutions business is one great example. We are expanding our offerings to deliver solutions that enable us to create that retail of the future. We recently launched our HP Engage portfolio, a versatile point of sales solution that combines sleek design, mobile capabilities and the ever-important HP security, all delivered as a service, and the market is responding. Our retail solutions business is gaining traction, and we are winning major customers, including large, notable wins across the retail, entertainment and airline sectors.

And then there’s devices as a service, HP DAS, which is an important part of our growth pillar. Why is as a service getting momentum in the PC space? Here’s why. There will be 9 billion commercial devices by 2020, creating increased complexity on cost. 60 percent of IT teams tell us their resources are increasingly drained by device management, and 80 percent of our costs are coming after the PC is purchased. One large driver in the increase in security attacks, which have sparked a 200 percent increase in IT updates. HP is stepping in with a solution. HP Device as a Service goes beyond selling PCs and, to selling services that manage those PCs. And by the way, this is not just for HP PCs. We also manage non-HP PCs, as well as mobility devices. We manage those devices across the entire life cycle.

We are also importantly using data and analytics to optimize experience for IT and end users, and because we are powering HP DAS via data and AI, it allows us to deliver this value without building a body shop. We are building importantly a technology platform that improves end user and IT productivity, strengthens their security posture and improves cost predictability.

So, here's analytics in action. I'm a big data person, so I'm very excited about what we've done here. To me, AI is about leveraging data to develop personalized and optimized value which is not just on slides but is tangible for businesses, and that's exactly what we're doing with HP DAS. We have built an analytics and proactive management platform which we call Tech Pulse, that uses telemetry, machine learning and advanced analytics. Some of you may have seen this demonstrated in our outside innovation area. With HP DAS, we can anticipate which batteries and hard drives will need service, and importantly, proactively replace them to keep systems running smoothly. That improves productivity for both IT and end users. We can assess CPU utilization to ensure customers are optimizing their spend. That improves value for both IT and end users.

And we can identify security vulnerabilities before they are exploited. By the way, this is real data form a customer with 70,000 devices. Once deployed, HP DAS once uncovered more than 50,000 hours where there was no firewall protection. We talked about security before? That is a hacker's dream. An hour would be a dream. 50,000 hours is nirvana. Because of our analytics platform, we identified and fixed the problem remotely. HP DAS improves the security posture of those end point devices. And for this customer, HP DAS provides them with a 40 percent return on investment that pays back within year one. Whenever we show HP Tech Pulse, our AI platform and our broader capabilities to our customers, they understand what HP DAS is.

So, I've talked about what we're doing in the core. I've talked about what we're doing in growth, so let's talk about what we're doing in the future pillar. We're focusing here on several exciting areas where we're creating leadership, in areas like 3D scanning, workflow transformation and commercial VR. Take 3D scanning, which is a $6 billion market. Our HP Fit Station platform continues to scale in the journey to reinvent how the world designs, personalizes and manufactures with commercial 3D technologies. We talked last year about the NFL. I can tell you today, HP Fit Station is in all 32 NFL locker rooms, providing players with customized cleat recommendations, and for the broader public, by the end of this year, HP Fit Station will be in over 100 retail outlets, providing personal shoe recommendations to customers, as well as custom-printed insoles which we are printing on HP's own multi-jet fusion printers, partnering with Super Feet. Now, that's the beauty of the full HP portfolio working together.

Another opportunity is data enabled workflow transformation, which represents a $15 billion TAM. By developing new solutions in digitized analog workflows, powered by analytics, we are able to improve worker productivity and job satisfaction. And let me talk about virtual reality. We're going after $25 billion TAM by building a new set of solutions that are transforming everything from entertainment to architecture. Let's take a look at the video.

[video music]

MR. ALEX CHO: And we are just getting started. So, yes, we are today primarily in consumer in gaming, but we see a huge opportunity in commercial as we go forward, and we have dozens of pilots and deployments that we are deploying the market around areas of product development, architecture, location based entertainment and healthcare, and as you saw from the video, these things drive accelerated design times, improve productivity, reduce training costs and there's a lot more that we have to offer to customers are we build out this solution.

So that's how we're driving our business across core, growth and future pillars. It's a strategy that's architected to outperform the market and drive profitable, long-term growth for systems. We're going to continue to grow our core by reinventing PC experiences and gaining profitable share in PC segments and at the same time, we will transform our portfolio by accelerating our trajectory in higher value and higher growth solutions and services and future categories. These are areas that are under-indexed and as they grow faster, they will provide a greater value to our overall profit stream. You can see how this shifts our revenue mix with expansion of these segments as we go forward.

So, in summary, we are going after a large and growing TAM. We have a clear and consistent strategy to gather these opportunities and focused on the customer, we are combining great innovation with a relentless future on execution to grow in the marketplace, and we will continue to deliver strong financial performance. These have been the key drivers of our success to date and they will continue to enable us to deliver the most exciting devices and the most intelligent solutions. So, I want to thank you all for your time this afternoon, and I look forward to the continued conversation throughout the day.

We are now going to take a break, as I understand, for 15 minutes and we expect you back at 2:50. Is that right? Thank you.

[applause]

[background music]

FEMALE VOICE: Ladies and gentlemen, please welcome Enrique Lores, imaging and printing business.

MR. ENRIQUE LORES: Good, good afternoon. It is great to see all of you here, this time in New York. This is the fourth time I'm going to be presenting in one of these events, and I have to tell you, this time is going to be a little bit more difficult, and it is not because the Board of Directors is sitting at the back of the room, it is not because I'm talking to some of the smartest people in Wall Street. It is not because all of my colleagues are sitting in the first row. It's because one of my sons is here in the room today.

[applause]

MR. ENRIQUE LORES: And what this means is that as I will be leaving the room, I'm going to start getting feedback, and you know what this means. Dad, you really were not funny. Dad, your pronunciation stinks. So, I really need your help. As you run into him during the break, please tell him how much you loved my presentation, how much I, how funny I was, how great my jokes were. Because otherwise, this is going to become the topic of conversation during every family meeting during the next many, many weeks. So please, I need your help.

MR. ENRIQUE LORES: Before the break, we had the opportunity of listening to Alex and the great innovation that they have, and I have to tell you, every time I hear them, I feel inspired about the progress they are making. I also joined the company long time ago, in my case, close to 30 years. And please, don't think about that. I also had the opportunity of working almost in any area of the company, and I also believe that we are living in one of the most exciting times of the company, and not just because of what we have accomplished since separation, but really because of the great opportunities that we have ahead of us. In print we call this print renaissance.

I’m going to cover four things today. First, I will talk about the progress we have made. Second, I will talk about the market and what are the attractive opportunities that we see. Third, I will describe our strategy and how are we going to continue to win in this space, and finally, I will describe what are the changes that we see in the business.

Dion tells us many times that change equals opportunity, and we will be leveraging that change to improve our strategies, to improve our offerings and to improve our business models. You may remember that three years ago, I told you that this business was all about supplies, and today, I will update you about supplies, but I want to, I will also highlight how important services are becoming for our business, and if there is something I want all of you to remember, by the end of the day is that yes, this business is all about supplies, but going forward, this business will be about supplies and services.

Let me talk now during, about the progress we have made. Three years ago, we faced headwinds and - - market conditions, and you were asking us very good questions. How are you going to be able to grow in a market that is in circular decline? How will you reverse years of - - decline? When will you be able to grow your supplies business. We told you that we were well positioned for the long-term and that we had clear line of sight and what we needed to do to reverse the situation, and we have delivered now our commitments. Look at the chart. From revenue to profit, to unit placements, to supplies revenue, there is no doubt print is growing. These are very strong results, and they are the consequence of hard work across any area of the business. They are the consequence of removing close to $2 billion of cost. They are driven by innovative products that leverage deep insights about what our customers want and need, and we deliver on these results while at the same time making progress of our key strategic initiatives. Let’s talk about that.

Let me start talking about home. Instant Ink is transforming how consumers print. Customers pay us a subscription to get, to print a few weeks of pages per months. We are made, the program is getting traction. Customers are attracted by the reduction in customer copy that they get because before they get, they run out of ink, we ship them an additional cartridge. Just imagine what this means. For those of you with kids, no more need to run at 10 p.m. in the evening to the next store to buy a cartridge to print your son's homework. You will get the cartridge before you need, you think you need it. We are making great progress with the program. In stores that offer the program today, 20 percent of the customers who buy an HP printer end up subscribing and the number of subscribers grew more than 30 percent year to date.

Let me talk now about the progress we are making in office. A3 and Contract One keep driving growth, and the Samsung acquisition has been a key catalyst of that. At the end of Q2, we reach nine points of share in the A3 category and we are also very pleased with the progress, with the momentum it has given us in the A4 category.

Graphics is one of our growing initiatives, and it's actually growing. We keep showing our customers the opportunities that digital printing is offering them. In our high-end devices, we showed page growth above 10 percent. You may remember that a year I talked to you about the plan to launch our corrugated press solution in 2018. We have done it, and today, top 10 customers have signed a contract to get one of these new presses, and remember, these are multi-million dollar presses that print, that use ink by the barrel.

Our success is based in us showing customers the power of print. We have made customers laugh. We have made customers cry, so let's cry a little today. Let's watch the video.

[video background music]

VIDEO: I want you to meet someone very special. This is your grandfather. He's my dad, like I'm your dad. And you know, without him, we wouldn't be here. I really wish you could have met him.

[applause]

MR. ENRIQUE LORES: I feel very proud about the progress we have made, but especially because of the impact we have had in customers' lives.

Let me talk now about trends and how do we see the market changing in the next years. Alex and Dion have already talked about that and you will see that we are really aligning how do we see this evolving. First of all, we see work styles and lifestyles changes and we call it One Life. This is raising expectations that all of us have about design and about experience, and for print, what this means is we need to enable our customers to scan, print and copy from anywhere they are. We live in a smart world. Everything is connected. Everything is smart, including print. With augmented reality, every print will become a gateway to digital content. Just think about this. You go to your soccer, to your daughter's soccer game. You record a video, you embed that video in a print, and after that, every time you look at that print with your phone, you will see that video again. You will relive that memory. This is what the power of print means in the digital age. Security is going to continue to be a key challenge in a connected world. More, we consume more and more things as a service, and print will be no exception. And personalization is becoming the way we consume, how we consume news, how we consume advertising. All of us want to be different, want to be talked in a different way, and digital print is a key enabler for that.

What ties all these trends together is actually the power of print. Scientific research shows that we learn better, we remember more and we feel more connected when we read a book, when we touch a photograph, versus when we just deal with digital content, and this is what is creating the pockets of opportunity in our business. Print is a large and stable market, but like in many markets of this size, there are segments of decline, but there are also significant opportunities of growth, and this is what we will be talking about today.

In home, we expect the market to continue to decline, but we see three key opportunities. First of all, subscription services will continue to grow. Customers are attracted by the lower cost and convenience that this service has been. Photo lifestyle will continue to grow. Only last year, consumers printed more than 700 million photographs.

Consumers click what they like, but they print what they love. And finally, in the consumer space, we continue to expect growth in the ink tank category, especially in emerging markets.

Let’s talk now about office. The office market will continue to be stable during the coming years, but within office, the contractual copier space will continue to grow, and this is a segment where we are under-indexed and where more than half of the opportunity in revenue is in services, and even more relevant in profits.

And finally, we continue to expect that the graphics business will be growing, especially the digital section, where customers, where digital will enable customers to reduce inventory cost, accelerate turnaround time and create and engage with consumers in different ways. Our strategies leverage these trends and leverage these opportunities.

This page summarizes what our strategies are, and all of you should be very familiar with it. We have been executing this strategy for the last three years. It is about core, growth and future. In growth, in core, it’s about reigniting the home and gaining share in the office. In growth, it’s about disrupting the contractual copier in the office and transforming analog industries to digital. And in the future, it’s about leading the 3D printing opportunity, and Steve and Christoph will be sharing our plans in that space after this presentation. Our strategies are built from a very solid foundation. We have one of the world’s most recognized brands and extensive go to markets. We have leading intellect for property and technologies. We have innovative big data and analytic tools that enable us to capture meaningful insights from our customers and we have unrivaled scale and leading cost structure.

Every year, every team at HP works very hard to make this foundation even better. Let me talk now about our strategies for the core. We will continue to reignite the home and gain share in the office by innovating in four areas: design, enabling One Life, leading in security and growing new business models that will simplify the printing experience.

I will talk first about design, and I’m going to share an insight that should not be a surprise to anybody in the room. Design matters, and we have learned that today customers spend more money in furniture hiding the printers than in the printers themselves. This is an incredible opportunity to differentiate, and we are doing that. Here in New York last week, we announced HP Tango. Actually, Dion did a great job in presenting that at the beginning. HP Tango is the first printer that has been designed to fit in a modern living room and is fully controlled from a smartphone. Let's watch a video that shows some of the capabilities of HP Tango.

[video background music]

VIDEO MALE VOICE: Introducing HP Tango. The home printer, reinvented, designed for the modern home, and modern life. With a smart interface, the ability to print from anywhere, free mobile photos with Instant Ink and voice printing.

VIDEO MALE VOICE 2: Okay, Google. Ask HP Printer to print coloring pages. Lots and lots of coloring pages.

VIDEO MALE VOICE: HP Tango. The smart home printer.

[applause]

MR. ENRIQUE LORES: HP Tango simplifies the printing experiences. No cables, no drivers, very, very simple to set up. It just works. In the video, you also saw two other critical applications that are enabling our customers to print from anywhere anytime. HP Run and HP Smart App. More than 40 million customers have downloaded HP Smart App today. We are seeing mobile printing really taking off. We are also redesigning, designing our portfolio for the evolving workplace, and we are partnering with WeWork. We are enabling WeWork customers to print from anywhere and to retrieve their work in any WeWork office. We are completely transforming what printing in the office means, and this is one of the most exciting projects that we have.

Security is the third area for us to differentiate and as Alex and Dion said, we are really proud of offering the most secure printers and PCs in the market. And as Alex said, every product decision is a security decision, and this is actually very important for printers, because only a few years ago, our customers, our partners didn't realize that printers were a vulnerable part of their network, and now this has changed, and printer security is now one of the key decision criteria for many business customers, and HP is recognized as the leading company in this space, a great differentiator that we will continue to invest in the future and continue to innovate.

We are also creating new business models to simplify the business experience. Last year, I talked about two, Instant Ink and Ink Tank. Instant Ink keeps growing. Today, we are present in more than 18 countries, including the US, the UK, France, Germany and Canada, and we have expanded our portfolio from the original plan at 50 pages to plans that include 100 pages, 200 pages, 300 pages, 500 pages and even a premium model. During the Tango video you saw that when a customer will buy a Tango and register to Instant Ink, we are offering free photo printing from mobile devices. This will help us to continue to drive print relevance and release photos from their digital prison.

During the last two years, I have got two key questions about Instant Ink from many people in this room. First, when will Instant Ink be relevant? When is it going to be material? Today, in the US and the UK, where the program was launched originally, close to 10 percent of the total ink jetting store base is already subscribed to Instant Ink. While this is not our final objective, we consider this being material.

Second question I get is how long does it take for an average Instant Ink customer to be accretive, versus an average, traditional customer. It takes about two years. After two years, Instant Ink is a more profitable model because it helps us to maintain a higher share of HP Original supplies, but until a program will reach its full potential, it is going to be a headwind for us, and for those of you that are wondering, we include all of these assumptions in our four-box model, and it is included in the guidance that Steve will be sharing later.

These two data points are aligned with assumptions that we had a few years ago when we launched the program.

Let me talk now about Ink Tank. I shared last year that in emerging countries, profitability of heavy users is below average. They use clones. They don’t use HP Original supplies. For these customers, we learned our Ink Tank portfolio. Customers pay more up front, but the customer cost is significantly lower after that, and this portfolio is having significant traction. Year to date, volume is growing

20 percent. You should expect us to continue, to introduce more products in the portfolio in emerging countries.

Let me shift gears now and talk about growth. And I will start talking about the progress we are making in the first growth initiative disrupting the corporate business. This is the largest segment in the office, and as I said before, a big part of the profitability and revenue is in services. To win in this space, we need to establish long-term relationships with our customers, and a great example of that is the relationship we have with Ford Motor Company. We have been working with them for over 14 years and we serve them in 38 countries. We started offering simple managed print services, and in this time, by learning more about what they need, we have expanded that offering to many other areas, like security. Our strategy to disrupt this business is focused on three pillars. First, we have developed an integrated portfolio of A3 and A4 devices. They leverage our printing technologies and all of the innovation that we are bringing to the core.

Second pillar is, are the solutions and tools we are brining. We are innovating in that space. All of our printers are today smart devices that harness the power of big data to reduce support cost. We have built into our printers more than 40 sensors, four zero, which, and these sensors provide us information that tell us when, if, or how printers will require support. We can schedule preventative visits where we serve multiple printers at once, that reduces the number of visits and therefore reduces the total support cost. We are also integrating our printers directly into workflows in the cloud. This means that when customers will be accessing the printers, they can perform a lot of activities that before they had to do in their PCs. This is drastically simplifying the end to end process and helping them to be more productive. In the product show, you have several examples where we are showing how this is possible.

The third pillar of our strategy is the expansion of our go to market. I’ll cover this in more depth. Success in this space requires that we serve a big variety of customers, from small companies to very large corporations. We will be driving the majority of our volume through the channel. This will give us scale and reach, and we will work both with IT resellers with who we have had highly successful relationship for many years, and also with office equipment dealers that are relatively new to us. We are making very good progress on both fronts. I talked before about opportunity in services. Capturing that opportunity requires that we build a direct contact with our customers, and we have built a complimentary technology, a complementary strategy for that. For large corporations, to access that profit pool in large corporations, we will be expanding our direct managed print services team. We are already today one of the largest managed print service companies in the world, and we actually have the highest net promoted score in the industry.

To get access to this profit pool in small companies, we have built and alternative plan. We might selectively acquire office equipment dealers. We will be selecting them based on their ability to integrate solutions based on the talent of their management team and based on the value creation opportunity that we will see. The acquisition of the Apogee and we announced the intent of doing that in August is our first move in this direction. They are one of the largest managed print services resellers in Europe. They, and they fit all the criteria that I explained before. We expect to close this transaction by the end of the calendar year, and once it is completed, they will be managed as an independent subsidiary. This means they will have access to the same price and terms than the rest of the channel. They will not get any preferential treatment.

Let me talk now about graphics. The opportunity to transform analog industries into digital continues to be one of our most important growth opportunities. Last year in this event, I talk about the deal that we just signed with Lightning Source. According to analysts, Lightning Source produces 40 percent of all the books sold by Amazon and close to 10 percent of all the books sold in North America. Last year I told you that this was our largest deal ever of page-wide presses. Since then, we have sold another six digital presses to them, making the deal even bigger.

Also in the publishing space, we are very proud of the work we are doing with Pearson, a big publisher in the UK. We have been with them a solution called HP Piazza. With HP Piazza, Pearson can upload to the cloud all their digital books, all their printable material and then their distributers can download it locally and print it locally in a print service provider. This system is enabling them to reduce significantly inventory costs and accelerate that round of their business. Today, thousands of books are being printed daily on HP Piazza. Our strategy in graphics is based on three pillars. First, it is about creating technologies that will drive the penetration of digital into new industries. This year, we have introduced already two key technologies. We launched the first latex solution to print in rigid material and you have some samples created with our technology, and I mentioned before that we have also launched our corrugated press. A year ago, I told you we were going to be entering the textiles market, and we are doing that as we speak. Today, customers all over the world are testing our solution that will be commercially available in the coming months, and here, I have to tell you a little secret. Some members from my team are very generous with the respectability of others, and they are telling me, Enrique, since we're in textile, you should be wearing one of these colorful t-shirts that now we can create, and I told them, we are going to be in the temple of capitalism. I need to wear formal suit. I need to look really respectable. And they gave me a t-shirt that of course I will not be wearing, but the secret is that someone had even a better idea, because there was something I could wear and still look respectable. I'm wearing digital printed socks.

[applause]

MR. ENRIQUE LORES: Now, those of you who cannot see it probably think that at HP we design great products, but we really don't know how to design socks. They are really, yeah, that is the HP logo on the socks. Okay, but really driving technologies that will drive the presentation of digital technologies is a key part of our strategy, even in socks.

The second key pillar of our strategy is the need to help our customers, our print service providers to be more efficient, and we are doing that with software solutions like HP Piazza or HP Printers, but we have also see the opportunity and the need to work with brands to explain to them the value of digital. What can digital do for them? And we have a very strong initiative in working in that space. Let me talk about the progress that is, that is happening. As you can see on this page, actually, as you can see on this slide, the number of pages across all key applications is growing significantly, from 10 up to 50 percent. This growth, this has very strong confidence in this business opportunity, in the growth that we will see in graphics. The ink used to produce those pages is sold through our click charge model and this helps us to maintain very high share of the ink that is being used.

Let me talk now about the initiative with brands. Today, we have close to 300 active projects working with brands all over the world. This is, this number has grown by 2x within just the last two years. We are showing brands how can they use digital printing to engage with their customers in a different way, and for once, to show the progress, rather than using an HP video, let me use a video that has been introduced by one of our customers where they describe the impact that digital printing is having in their company. Let's watch the video.

VIDEO MALE VOICE: In China, online shopping has become a lifestyle among youth. Not only do biscuit brands in China find it crucial to stay ahead of their competitors, the eCommerce brands too want to be more innovative to stay relevant with the younger generation. Inspired by the younger generation who like to be different and unique, the world's number one biscuit brand, Oreo partnered with China's number one eCommerce platform Alibaba T Mall. Together, we broke all the rules and created our first Oreo color-filled campaign. It's truly a fun, new innovative way of shopping online, and when our launch day came, T Mall was as excited as we were that they featured all of our ads on their main page, and our sales of Oreos rose to more than 3 million UN in just the first day. We were taking 16 orders every minute, so overloaded that we crashed T Mall's server for three hours, and our customers, of course, needless to say, they were so thrilled to receive their packs that they showed them off on WeChat.

[applause]

MR. ENRIQUE LORES: This is a great example because what we saw, what we have seen in Mondelez is that once they saw progress happening with Oreo, they realized they needed to use the same methodology, the same approach in two other sub-brands of the groups, and they are doing now similar projects with chewing gun in Brazil and China, with beverages in Brazil. And this also helps, and this really helps us to catalyze the growth across different industries because when a competitor of Mondelez sees the progress they have made in one of those spaces, they imitate the model, they develop a similar alternative and this is driving, really driving the growth of these opportunities across multiple industries, and this is why today we have close to 300 projects active in this space.

Let me go back now to the strategy page. We have gone through all the different initiatives that we have to grow, and I want to remind something about that. All the work that we do on core, growth and future has one objective, which is to create and drive supplies growth. This has been our mantra for the last three years, but there is something new this time. They are going to be driving also services opportunities and this is why I said before this business will be all about supplies and services.

Let me talk about both. This chart shows how do we think about the supplies business, and maintaining supplies stability is key for us. I know it's a complex chart. Dion reminds me many times it's a very ugly chart, but again, showing and sharing to you how do we think about the supplies business is important. This shows where do we expect headwinds, where do we expect tailwinds and what are all the assumptions that we have built into our model. Don't worry, I'm not going to be going through all of them. I'm going to just highlight those that have changed from last year, because there are actually very few changes from what we discussed a year ago.

In the home space, you'll see that we have identified install bays as a negative trend. This is actually not new. This was the same a year ago. What is new is that as of November, we will be classifying all the Samsung units as home and therefore, this will be classing in this space an additional headwind. Also, in the home space, our plan for 19 is not to improve the quality of the mix of units. We think we have a solid mix at this point, and in office, we expect that the improvements of mix, driven by A3 will more than compensate the lower usage that we see year-over-year in this space and the reduction in pricing that the lower cost per copy in A3 will be bringing. We input all these assumptions into our photo box model and our plan, our expectation is that for fiscal year 19, the supplies business will be flat or slightly up. No change from what we communicated to all of you at the end of Q1 when we completed the acquisition of the Samsung business.

Of course, as we have discussed many times before, we have a very robust operational process to drive these assumptions into reality, and we have proven year after year that we deliver on our commitments in this space. Let me now talk about services and why they are going to become, actually, why they are becoming so relevant for us. Customers preferences are shifting and we’re building an offering of printing as a service offering across the whole portfolio. In the home space it’s our in subscription model. In the office our managed print service offerings. And in graphics is about click -charge. All these models help us to establish a closer relationship with our customers that is significantly stickier than the relationship that we have had before. In many of these cases, hardware may not be part of the contract that we signed with end user, but in all cases, it helps us to wrap around it a supplies or service contract. In fact, in many of these areas, the industry standard is that supplies and services are reported as one category. The growth of printing as a service is going to have a significant impact in our business. As you can see in the chart, we expect that printing as a service will represent about 30 percent of our business in 2025, up by 15 points. A year ago, we showed a similar chart. We were calling it contractual. We think that printing as a service reflects better the intent of what we are trying to do. We have also changed how do we classify our business and we include hardware business now in printing as a service only if it enables us to sign a direct supplies all service contract with our customers. This is what is driving the percentage down.

As we grow the services that we, the service business that we create and as we, through printing as a service, we increase the share, we maintain the share of supplies, printing as a service is actually helping us to have a more stable, more secure recurring revenue stream. This is why it is so important, and again, let me say once more time, going forward, this business is all about supplies and services.

Let me wrap up now. Three years ago, I promised you that we would reinvent the print business, and I showed you this chart. We have made our milestones every year. We are very confident about the future of the print business. It is a large market. There are attractive opportunities for growth. We have our strategy that leverages industry trends and we have proven that we know how to execute. We have one single goal, drive profit dollar growth and we will do that by continuing to innovate, continuing to improve our productivity and relentless focus on execution.

And to close, I want to share my personal perspective of the business because I strongly believe that the best days for print are still ahead of us because at HP, we are reinventing print. Thank you.

[applause]

MR. ENRIQUE LORES: And there is actually no better way to talk about reinventing print than by listening to the plans that we have in 3D printing, so Steve and Christoph will now come to the stage to explain our plans in that space. Gentlemen?

[background music]

[applause]

MR. STEPHEN NIGRO: I see Cathie over there rocking. Hey, thanks, Enrique. I love the innovation you and your team are bringing to the printing business, and for me, I want to go on record and say, you gave a great presentation and your family ought to thank you for being a wonderful father.

[applause]

MR. STEPHEN NIGRO: In 3D we are fortunate to be able to leverage so many key assets, which is part of our winning 3D formula. This presentation will be in two parts. First, I will give an update on the business. Second, Christoph will come up and talk about our platform strategy, thoughts on accelerating production and our journey into the future. When we introduced HP 3D printing to the world, we shared our vision, which is to change how the world designs and manufactures, or, as I like to say, to lead the next industrial revolution. It is amazing how far we have come in the last year. Twelve months ago, our first product had been in the market for about 10 months, and we had been shipping at volume for six months. Twelve months ago, we had early indications of a strong reception for the product. With that said, the combination of speed, quality and low part cost was new and it was unclear how customers would react to this new capability.

Today, we are in a strong position. We have achieved the number one position for thermoplastic solutions, above $100,000 with HP's starting price point about $300,000. Outside researchers have noted that Multi Jet Fusion is the most used 3D industrial printer in the market in 2018, nearly 3x the nearest competitor.

During the sales process, customers produce what we called a benchmark. Benchmark parts represents the type of applications they plan to use when they buy the product. Today, we see more than half of our benchmark parts are for final production. Greater than 30 percent of the benchmark parts are for tools and spares. Less than 15, one five, of benchmarks are for prototyping. What this tell us is our customers are looking to use Multi Jet fusion for production and production means new applications and high volume usage. For example, our powder consumption is growing, double digits, quarter on quarter. The number of Multi Jet fusion applications grew by 10x over the last 12 months and we also significantly grew our product portfolio. Or, to summarize, it has been an extremely busy and productive year.

Now, over the last two years, we have shared the six keys to allow 3D printing to expand into the $12 trillion manufacturing industry. The first three are key to unlock the market. Without progress on these fundamentals, the potential will not be realized. First, making progress on product capability, faster, higher yield, higher up time, lower servicing costs. Second, lower material price. Third, increased material selection. As we make progress on these three fundamentals to unlock the market, there are three factors which will accelerate 3D adoptions, design for additive in the short term is the greatest accelerator. Having designers understand the design possibilities enabled by 3D is the key to growing the market. Christoph will share our plans to make significant progress on these fundamental market expansion factors.

As Dion and the entire leadership team at HP says, we are a company that delivers on our commitments, and we are. We have been sharing these milestones at our previous SAM presentations. Last year, we shared our 2018 plan, which was to expand HP's portfolio and expand our footprint in the market. So, how did we do? Twelve months ago, we had one product, the HP Jet Fusion 4200. Today, we have significant expanded the portfolio. We have now two solutions in the HP

Jet Fusion 4200 family. The original 4200, and the 4210, which lowered the cost of parts produced by 50 percent. Lowering the part cost reflects an increase in the breakeven which allows more production to move from analog to digital. We are also beginning to ship the HP Jet Fusion 300 / 500 series. The Jet Fusion 300 / 500 series bring the same part quality as the Jet Fusion 4200 in one integrative solution at a price range between the high 50,000 t low 100,000. This product will allow designers to prototype in the same technology as they use for production. We like to say it's going to help democratize Multi Jet fusion.

And finally, as you may have seen, just last month we introduced HP Metal Jet, which is all about taking metal 3D printing from specialized production to mass production. As part of our platform strategy, we've established strong materials, software and data foundations which Christoph will cover in more detail. The expanded portfolio will dramatically open up new market opportunities to HP.

Now, when our customers buy our products, they buy them to produce parts. We are sharing some examples from our customers here at the event. You can think of Multi Jet Fusion as a general purpose digital production technology. If you can imagine it, we can produce it. We have seen the fastest adoption of Multi Jet Fusion in four key verticals: transportation, industrial, medical and consumer. 3D printing is transforming some of the largest industries in the world. In the last years, as customers got more familiar with the power of Multi Jet Fusion, we have seen an explosion in new applications.

I like to share a few of my favorites. New cooling and light weighting applications on showcase electric vehicles, improving performance as the auto industry goes from internal combustion engines to electrification, the biggest change in 100 years. Creating completely new industrial products and improving production lines by redesigning to reduce cost and development time and increase flexibility. This is a part from an industrial product that paints construction beams. Customization on a massive scale with medical applications like dental aligners, prosthetics and orthotics. A great example is Invent Medical, one of our orthotic customers in Europe who has said with Multi Jet Fusion, they can transform the orthotic industry by providing patients around the globe new, advanced products that can improve their lives.

We also are creating all sorts of individualized consumer goods, like VR headsets, eye wears and my personal favorite, 3D printed flip flops. I plan to be wearing these a lot more in the near future.

[applause]

MR. STEPHEN NIGRO: I am so proud that we are enabling our customers to not only improve their business but also improve everyday life. One year ago, we, HP, just started understanding how we could use HP 3D ourselves. We challenged our engineers and designers to look at how Multi Jet Fusion could have a positive impact on HP’s business. One year later, we see examples across the enterprise, lowering cost, creating new design possibilities and reducing time to market. A couple of great examples. On the Jet Fusion 300 / 500, we have over 140 part being produced by Multi Jet Fusion, not because we can, but because we should. It makes economic and product performance sense. On Indigo, they had to create a new tank mixer. The team produced and tested 10 designs in two weeks and saved $160,000 on a single part. In our large format printer business, we are starting to print spare parts on demand so we can drive down inventory and be more responsive to customers. The use of Multi Jet Fusion is gaining traction in HP. We have seen $10 million of hard cost savings with a much bigger business contribution and value coming from reducing time in the market, in some cases by over three months. And, creating new product capabilities. When a customer commits to production, they can start scaling with Multi Jet Fusion. Today, the Jet Fusion 4200 is the most productive 3D plastic printer on the market. Even with that productivity, we see greater than 30 percent of our installed base, are multi unit deployments.

Which means, volume production. In some cases, much more. Let's see a video of a customer who made the leap 12 months ago to Multi Jet Fusion and production.

3D PRINTING CUSTOMER VIDEO: So, 3D printing is not a new technology. It has been a technology that's been around since the late 1980's. So, it's not new but what is new is the ability to do mass production in 3D printing. We are an added manufacturing focus service company. We do work for any company, any industry, any vertical that you could think of. Traditionally, we've been a prototyping company and with the introduction of this HP equipment into the market; we've been able to actually get into full production runs with this new technology.

So, our gross has been significant with the HP Multi Jet Fusion technology. The main industries that are really driving it are the healthcare side, the aerospace side and industrial products. There are new products that could not exist without this technology. We brought on our first two MJF machines in the third quarter of 2017. It wasn't too far into the first quarter where we were running our first 12 machines that we had a demand and needed six more.

We plugged in 18 the day that they were plugged in, that equipment was full. We are today now up to 24 machines with 72 build units running three shifts 24/7, and we expect that to continue to grow. What has turned a corner for us is the throughput. The fact that we can push so many parts so quickly through this equipment and at a cost never before seen has really been the game changer.

What we're doing today and what we've been able to do this year inside of September here, we will product one and a half million parts through our MJF lab. This is new territory. We have entered the era of digital manufacturing. It's happening so, if a company is not doing it, they're behind on the curve already and we want to continue leading in this space. Digital manufacturing is here and Forecast 3D and HP are leading the way.

MR. STEPHEN NIGRO: They do a better job on my presentation than I do. They tell the story. A year ago, here at SAM, we shared our intention to enter the 3D metals market. Last month, we did exactly that with HP Metal Jet. A disruptive new metal binder jet technology. But why? Just like with plastic, we entered the market when we could make a disruptive contribution and move metals from specialty production to mass production. HP Metal Jet is a game changer. Up to 50 times more productive than any other 3D metal product on the market today.

And order of magnitude, lower cost per part than laser melting. Currently, the most popular 3D metal technology on the market today. Parts produced on HP Metal Jet are meeting or exceeding ASTM and ISO industry standards. Delivering the quality required to get into production. We're entering the market in 2019 through a key partnership with GKN and

Parmatech. GKN and Parmatech are experts in high volume metal part production.

They are already working with their customers on specific Metal Jet applications. We have also launched the Metal Jet production service. A web service which today, enables anyone to upload and design HP Metal Jet parts. Customers will see parts in 2019 which allows them to start the rigorous production qualification journey. The strategy of first bringing parts to the market is key to accelerate the adoption of HP Metal Jet into production.

We'll follow the production services with select product availability in 2020 and broad availability in 2021. Just like in plastics, to get metal mass production requires vertical and application focus. Metal mass production is concentrated in medical, industrial and transportation. As mentioned, GKN and Parmatech are working with their customers with some great early examples. Example, a new metal impeller design to approve the efficiency of an industrial pump from Wilo. A large European pump manufacturer.

New surgical devices from Prima Medical, a supplier to the medical industry. And, a comprehensive part roadmap from Volkswagen. Let's hear from Dr. Martin Goede at Volkswagen.

VOLKSWAGON VIDEO: It's a moment we are truly convinced and really optimistic to reach high visionary objectives to be the first OEM in the market with the right partner, with HP. Volkswagen is interested in 3D Metal Jet technology is that we can produce parts without manufacture ring tools before. One car consists of 6,000 to 8,000 piece and parts. Using HP technology, that gives us the chance to produce high mass production volume in a very short time.

This technology provides absolutely new design features that other manufacturing processes could never provide. Honestly speaking, I do not see any other manufacturing process to produce metal parts that can come up with this number of advantages. This is really a visionary approach going forward entering into the Metal Jet technology together with HP to be the leaders in applying Metal Jet technology in automotive industries.

MR. STEPHEN NIGRO: As you know, after 37 years with HP, I am retiring at the beginning of next year. We have laid a great foundation and today, I'm even more confident than I was three years ago in our ability to transform the industry. Now, is a good time to transition to the next generation of leadership. Christoph Schell will be the new leader going forward and he is a great selection. Christoph brings international experience across multiple businesses. Christoph understands HP and what makes HP special.

Christoph from day one has always had a passion for 3D. Heck, when I hear his German accent, I just think industrial. So, I would like to hand the key to HP's 3D printing to Christoph. A key produced with all three of our technologies; color, black and metals. Christoph, come up and take the key.

MR. CHRISTOPH SCHELL: Thanks a lot. That's awesome, thank you very much. Oh my God, it's heavy. Alright, I didn't expect that. Let me start by thanking you Stephen. I think what you guys have created in the last years from a technology point of view but also from an industry transforming asset point of view is super to none. I'm probably the happiest employee within HP right now. I don't know if this means anything to you but the opportunity to take over this business, take this key and scale the business; I think it is second to none. I consider it a once in a lifetime opportunity and I'm super proud to be able to do that. I'm really honored and I'll value the key, I'll promise that. Watching that video of my fellow countrymen reminded me to be thankful that you cannot hear your own accent when you speak.

But, you guys will have to endure that, I'm really sorry. I really have a passion for building businesses, disruptive businesses. I like about our 3D business that it has the customer at its core and how we are able to lead with insights and how we work in ecosystems with partners and customers to define value propositions. It's something that I learned not only in my 20 years at HP but actually when I started as a teenager with my dad's company where we built a technology company that we then sold.

I also learned that at Proctor and Gamble where I was in brand management and really, my daily life was all about the customer insights. And not too long ago, I had an opportunity selling lighting solutions into large, industrial customers when I was an employee of Philips Lighting. So, I think it gives you a bit of a background to who I am and what I value. What I'm going to do in the next couple of minutes is, I want to double click on the innovation that we have in HP in this business.

And to show you the roadmap of what we will do in the years to come with 3D printing and our involvement with digital manufacturing. Let me start by talking about our technology platform. Our technology platform is really built on three pillars. The first pillar is our thermal inkjet technology. The second pillar is our open materials strategy and the third pillar and it should really be, I was surprised because we talk about digital manufacturing, this is all about data and software. Let's double click on these pillars. The first pillar, thermal inkjet is a clear fundamental advantage the HP has in the market compared to any one of our competitors. I'm looking in the room and I know that most of you guys are following the tech industry. So, Moore’s Law should be fairly known to you and for those of you that don't know, I'll try and summarize it very briefly. Moore’s Law basically defines the number of transistors that are sitting on a microchip and the fact that they can be doubled every 18 months. When we started with our thermal inkjet technology in HP 30 years ago, we actually started to double the amount of drops our printheads can deliver every 18 months as well. What started as 18,000 drops in 1984 is by today in the hundreds of millions of drops per second that we can really print with incredible precision. Now, why do I tell you that?

Number one, I tell you that because it is the core part of our technology. SVU is in our inkjet business but also for our plastics and metal printing. I'm also telling you this because we continue to grow exponentially. We are not done yet with inkjet Moore’s Law. What does it mean for our metals and plastic business? Well, it means that we can print with the precision of 21 microns. Twenty-one microns, that is 1/12 of a human hair of precision. We call this voxel level technology and voxel is a 3D metrical pixel and it is an absolute advantage that we have in the industry that will drive applications that will be unique to HP.

Again, we are not done, there will be future generations. The second pillar is our open materials strategy. It is important that we lower the cost and increase the selection of materials that are available for our platform. Last year, last past 12 months, we have expanded the materials available. Obviously, when we launched a metal printer, there is a metal material that we're printing on. But even on the polymers, we have been able to expand.

We're printing today on PA11, PA12, PA12 glass beads and we're about to launch TPU elastomer. This will open new classes of applications and every new application that we add will increase the addressable market for our solution. The ecosystem that we've created on the material side is helping us tremendously. Two of the partners, Henkel and Evonik are really leading the way. And, they are co-developing materials with us and our customers. But, they're actually also developing materials with their own customers and it's eye opening to see how many applications they can drive by themselves.

We will continue to attract new partners to that ecosystem and obviously we will continue also to add new materials. Now, the third pillar is data and software and it is clearly the back bone of any digital manufacturing value proposition. To us, data is at the core of driving repeatability and quality at massive industrial scale while we imbed our technology in digital factory workflows. There are four terabytes of data produced on any Multi Jet Fusion build. Four terabytes of data, that is the equivalent of four million pictures. This data helps us to give our customers unique insights and it helps us to consult them in their adoption of 3D printing.

We're using the data today to optimize part design in order for our customers to drive the production of new applications. We're using the data to deliver part quality which increases yields and improves part tolerance and we're overall enabling productivity by consulting them when they add to their fleet of Multi Jet Fusion printers. We have many customers that started with one, now buying the second one, some of them, as you heard are beyond 20 printers.

Some of them really producing 24/7 and the data that we have helps them dramatically to plan their builds and also to inform how to pack the print jobs that they have. We will also use this data internally to leverage it for system telemetry and predictive analytics. What I want you to think about when I talk about this is, we have a unique opportunity to proactively service our machines. Because the data will inform about opportunities that we have on the installed beds out there.

It will also give us the opportunity to seamlessly upgrade. Think about over the air upgrades for firmware for example. All of this is functionality that is super important because we are now mission critical for our partners. These units, they have to be operational 24/7 because they're in true manufacturing environments. These three called pillars allow us to continually advance our platform. We can continue the advance even the installed base that we have in the market.

We're making significant progress and locking the market and delivering against the factors that Stephen outlined earlier on. For us, it is all about disrupting how people design and how people manufacture. And to achieve that, we have to continuously push ourselves and our ecosystem on the capabilities. Let me double click on that. Mass manufacturing is all about economics. We expect to drive the breakeven level for parts beyond millions of parts on polymer-based parts and north of 500,000 on metals.

Digital the manufacturing at scale requires repeatability and quality of parts to rival that of injection molding. We will continue to push our tolerances and process capabilities to not only exceed those existing in the 3D industry today but actually those in manufacturing as a whole including injection molding. New materials will drive new applications. New applications will drive greater available addressable market to us. We'll continue to broaden our portfolio and expand our partner ecosystem to drive more applications.

Connected devices, sensors, variable properties in a single part. This are all voxel level capabilities that we think are going to be unique to us and that we will launch in the coming years. And all of this will be enabled by new digital services, building our data and software fabric. Helping customers design for 3D is a great start to get a customer onto the journey. Getting the designers to go away from thinking injection molding and really truly designing with new complexity is a great start.

Data helps us to inform that and helps our customers to think how about using 3D printing in a mass production environment. Over the next 10 years and beyond, we're committed to driving the innovation required to lead the industry in digital manufacturing. Now, if those innovations advance, we will work and continue to work hand in hand with our customers and ecosystem partners.

Today, we have already great alliances. We're working closely with companies such as Siemens, Hankel, Evonik, SolidWorks and the Deloitte. Just to name a few. Our channel model, we talked a lot about go to market in the past 12 months in HP, is solid. We have a very good ecosystem from a go to market point of view, established in key manufacturing hubs across the globe. What we have decided to do for next year is to double down on our ecosystem approach.

In 2019, we are planning to stand up a digital manufacturing network and the network is really supposed to come on top of the existing ecosystem that we have. As we're looking for partners that can help us with design, engineering and process controls and they need to have deep, vertical expertise. We're going to be picky with partners that we will put into this program because we believe that quality trumps quantity.

But, we also believe that it is important for HP to invest in vertical expertise as we are moving more and more from prototyping into manufacturing. Now, I've come back to my German friend, not because of his accent. But actually because he and his team at Volkswagen have done something that is pretty awesome. They have embraced our Metal Jet technology and they have developed together with our team and with GKN, a multiple year plan.

The first thing that they're going to do is, they will go into mass personalization of parts. Look at this key fob, I'm not sure how many of you have a Volkswagen at home, I actually do. You can imagine to personalize the top end here. You can put your name on it, you can put your favorite baseball team on it if you want, I'm German, I don't do baseball. But, I like football or soccer. So, I could put that on here, okay.

This is great. I could do a different one for my son, then for my daughter if they want to drive. I hope you don't have that problem. I can tell you that the insurance goes significantly up if you have a son versus a daughter. Statistically sons are the worst thing that can happen to your car insurance. Speaking out of experience. So, we will start with personalization of parts. The next thing we're going to do is, we are going to go into functional parts and this is happening in parallel.

I don't want you to think about this as a sequence. This happens in parallel. So, we're talking to GKN and Volkswagen about mirror mounts or my personal favorite, gear shift knobs. I have an old car at home, a 1962. This thing is broken, I can't get it anymore on the market. I've asked the team already to print me one. So, I'm going to use Alex's scanning technology, we're going to take a 3D scan and we'll print it out. I'll make sure that my name is on it so that my wife can never sell the car.

Then, in the long run, it's really all about safety certified applicators for things such as the light weighting of parts. Think about this, Volkswagen has declared that by 2025 they're going to have 80 models that are going to be e-vehicles. These e-vehicles by 2025, it corresponds to 10 million sold cars. These cars, they will use less parts than the cars that are manufactured today. The parts need to be optimized for weight.

I guess that makes sense because the lighter the car, the further the battery can take you. So, imagine you have a technology that can help you as a car manufacturer to reduce mass and that's what we're doing in 3D printing. We are helping the automotive industry to reduce mass and they will have a direct impact on the performance that they can yield out of the battery powered cars. So, I do really believe that we are a very strategic partner for the automotive industry going forward.

Now, let's go back to the roadmap. Stephen showed that and I really want to point out what is going to happen in the years to come. I think Stephen and the team have innovated a new technology with very high barriers to entry. I really want you to think about this. High barriers to entry, having in your mind the 30 years of investment that we have in the thermal inkjet technology. We're leveraging our platform and our strong IP position.

We will accelerate manufacturing in targeted verticals and key applications to grow the market. New advance design and productivity services will help our customers move faster on their journey. We will also expand our ecosystem approach by launching a digital manufacturing network. That will help to really grow digital manufacturing for selected customers. We will continue to push the limits of performance and productivity of our solutions both in plastics and in metals.

I'm really confident that this puts HP in a very strong position to capture value from this extraordinary, once in a lifetime industry disruption. We have launched and built a global business in near record time and I think now it's my job and my teams' job to scale this business. We're investing in the technology platform in the broader portfolio in digital manufacturing and vertical expertise and overall in go to market assets to really bring this to life.

Our market opportunity is vast. Our technology platform is super differentiated and as Stephen said at the very beginning, we are in this business to making sure that the world changes how we design and how we manufacture. Or to say that in other words, to lead the next industrial revolution. Thank you very much. So, you've made it to the next break and you've earned it after listening to this accent. We'll have a 15-minute break and then the moment that you all have been waiting for will come and Steve Fieler, our CFO, will present. Thank you.

VOG: Ladies and gentlemen, please welcome Steve Fieler, Chief Financial Officer.

MR. STEVE FIELER: Good afternoon everyone. So, let me just get something out of the way real quick and it's not guidance. So, with that walk on music and music here today, I'm very thankful that I pursued a career in finance and not a DJ and am wearing grey socks, no flip flops. I will take some 3D printed glasses at some point in time but it's been great presentations this far. When Dion asked me to be CFO, a couple things came to my mind. First, I knew this was an incredible opportunity to help steward the company into the next era.

Across personal systems, core print and our unique opportunity to create a 3D printing franchise over the years to come. It's truly an exciting time to be at HP. Second, I look forward to developing my relationships with our investors. Many of which, I've known in this room for some time in different capacities. And demonstrating my commitment to build long term shareholder value.

Today, I'll spend the next 30 minutes or so talking about our financial framework and our FY19 outlook. Let me start with a few key themes. We have been delivering results. We have demonstrated a strong track record of execution and financial performance. Our results have been broad based across geographies, business segments and customer segments. We've grown in revenue, operating profit dollars, earnings per share and free cash flow.

We've been consistent and balanced over multiple periods while navigating through various headwinds and tailwinds. Our strategy is working and our business fundamentals are strong. We are delivering today and building for the future. We are in a position of stability and strength and I'm optimistic about the prospects of our business. We are focused on the long term which includes driving productivity, while the same time investing in a business to capture the future.

We see opportunities ahead, three, five, 10 years out. But we take a returns-based view of our capital allocation decisions. Our ability to deliver across our strategy of core, growth and future offers a compelling investment opportunity. One, lead in our core, this generates consistent free cash flow and strong return of capital to our shareholders. Two, accelerate and growth. We are well positioned to capture large adjacent yet underpenetrated markets. This generates opportunities for sustainable growth over time. Three, capture the future.

This does take time to play out but we have unique assets and IP. Early market success, differentiated platform strategies and a strong competitive position to win big in the future. Dion and segment presidents have each spoken in detail about our strategy and progress. Let me now share some of the data and highlight how this strategy is working in generating results for our investors and how we're meeting or exceeding our financial commitments.

The numbers on the bottom of this page show a FY18 SAM outlook provided last October and the numbers on the top represent the FY18 outlook that I provided on our Q3 earnings call. Starting with non-GAAP EPS, last year at SAM, we guided the midpoint for non-GAAP EPS of $1.79. Today, our FY18 non-GAAP EPS outlook is in a range of $2.00 to $2.03. A little less than half of the increase comes from the net benefit from U.S. tax reform followed by better operational performance, lower OIN expense and high share repurchases.

Overall, we have grown year to date non-GAAP EPS by 22 percent year-over-year. In addition to positive EPS performance, we have also generated strong free cash flow. Last year at SAM, we guided our full year free cash flow to be at least $3 billion dollars. Year to date we've already delivered $3.3 billion dollars and our track to deliver at least $3.7 billion dollars for the full year.

An important part of our shareholder commitment is return of capital. Through Q3, we have distributed $2.6 billion dollars in a form of dividends and share repurchases. For FY18, we are more likely to return 75 percent of free cash flow even with our strong free cash flow performance. Our performance has not only been strong, it has been consistent. Let's look at some of the trended data since separation.

The chart on the left shows HP's non-GAAP earnings per share and revenue. The chart on the right shows our free cash flow and return of capital. The numbers are clear and impressive. Since separation, we've generated $9.5 billion dollars of free cash flow and returned $7 billion dollars to shareholders. One of the takeaways from these results is the importance of a consistent strategy and operational focus. The decisions made in FY16 and FY17 are having positive results today. We focused on cost structure, we focused on investing in growth opportunities and we focused on getting our business models right, especially on supplies.

The same holds true for the decisions we make today, which is why we remain balanced and focused on delivering across our core growth and future opportunities. We also remain focused on driving cash flow. There are three key fundamental drivers to our cash flow. First, is we generate profitable recurring revenue which supports our strong free cash flow. Today, the recurring revenue stream is driven primarily by our annuity-type supplies.

But as both Enrique and Alex described today, we expect to shift more of our business to contractual overtime, which should further secure our free cash flow and recurring revenue streams. Second, we have a negative cash conversion cycle driven by our personal systems business. Therefore, when our business grows, we generate cash flow ahead of earnings. This is supported our year to date free cash flow results.

Third, our business is not capital intensive. In Personal Systems, we have a high return on invested capital with very little capital expenditure. Much of our CapEx dollars are for our Print business and to support corporate infrastructure. In addition to the fundamental drivers of free cash flow, there are also key factors that impact the timing and period to period changes that we see.

First, free cash flow ultimately tracks in line with net earnings. This is an important base line principal.

Second, changes to our cash conversion cycle - day sales outstanding, days payable outstanding, days of inventory in any particular period will impact results.

Finally, business volume. Free cash flow will move higher or lower in any particular quarter, depending on the sequential volume of the business. Even with flat cash conversion cycle.

To illustrate, on the right is our cumulative performance of non-GAAP earnings and cumulative performance of free cash flow since separation. In general, the results move in a line with each other with a few exceptions. As you can see, shortly after separation, free cash flow was tracking below net earnings. However, the company focused on improving its cash conversion cycle by about nine days in Q2 of '16. We have continued to make further improvements and leverage the strength of our balance sheet. More recently, free cash flow has tracked ahead of earnings primarily driven by the volume of our Personal Systems business.

Our cumulative free cash flow results show the good progress the company has made on free cash flow. We will continue to focus on the appropriate levers as business conditions evolve.

So, now let me turn to the state of the business and current portfolio. In both Personal Systems and Print we are industry leaders. We have broad global reach and scale. The chart shows our last four reported quarters. There's a lot on here so let me highlight a few things.

We have grown revenue 13% year-over-year to $57 billion dollars. This is $6.4 billion dollar increase over the past 12 months. Personal Systems represented approximately 64% of revenue and 30% of operating profit. In PC's, we have driven profitable share growth for 18 quarters in a row and we believe that there's more opportunity ahead as the industry continues to consolidate and HP continues to differentiate.

Print represented approximately 36% of revenue and 70% of operating profit. We have been outperforming the market, delivering on our supplies objectives, placing more units, integrating S-Print, driving productivity and investing in key growth adjacencies organically and inorganically.

Lastly, on the right hand of this chart, you see our net revenue by region. Each region has grown year-over-year for the last seven quarters, with 44% of our revenue in the Americas, 35% in AMEA and 21% in APJ.

As I highlighted earlier, we are delivering today and building for the future. This means that we're focused on driving productivity and investing for growth at the same time. They're symbiotic. Effective cost management remains a critical element of our success in very competitive markets. We're always looking for ways to operate more efficiently and effectively.

This touches every aspect of our business and I'll highlight a few. We're implementing new tools and technologies to reduce manufacturing complexity and improve global supply chain processes. We are focused on the entire end-to-end product costs. From the building materials through customer support where we continue to simplify, drive better quality and create better customer experiences. This yields many productivity benefits from lower warranty and support costs.

Let's not forget about the potential that leveraging our own 3D printing capabilities can have over time as both Christoph and Steve highlighted earlier. We are always looking for ways to leverage technology processes and tools. Especially in non-sales and non-product areas. Personally, in my financial organization, we're driving more and more robotic, automating manually intensive backend processes that happen to be costly.

By focusing on cost management, our businesses could be more dynamic and create more capacity to invest. In Personal Systems, we are in a better position to react and offset industry-wide margin pressures due to increasing commodity and logistics costs. In Print, our improved cost structure has allowed us to have opportunities to place more NPV positive units. In addition, it also allows us to fund important investments in R&D, sales and marketing.

We remain committed to the innovation investments that fuel future results. After spending nearly ten years in the company and leaving for a few between returning last year, I can say that this is one of the most apparent values at the company. Innovation is key to everything we do and ultimately fuels HP's leadership in existing and new categories.

As you can see from all the presentations today, our eyes are wide open to change. We are very well positioned to lead, to tackle challenges and seize opportunities, from micro segmenting existing markets to macro disrupting new ones. Our capital structure is an important part of navigating this change. We have a few credit principals. It is important to maintain an investment grade credit rating. This provides us with ample access to the debt markets as needed. It also provides strong liquidity and flexibility to make the right investments over economic cycles and supports our shift to contractual where we have stickier and longer-term relationships with customers.

We also aim to have a balanced debt maturity profile. During FY18 we completed a successful debt tender that improved our maturity profile going forward. Our Q3 balance sheet had $153 million dollars of net debt with $7.1 billion of gross cash and $7.2 billion in gross debt. Looking forward, we will continue to focus on maintaining sufficient cash for daily operations and flexibility over the business cycle.

We have maintained a consistent approach to capital allocation where decisions are made using a returns-based framework. We start by designing our business plans, short term and long term around where we intend to play, differentiate and win. We apply capital structure considerations and return targets and risk adjust investment opportunities. We can evaluate one investment alternative against another to ensure that the decisions we are making are maximizing shareholder value.

We continue to see opportunities to invest in our business. This includes investing and placing more NPV positive printer units and driving innovation in order to lead in our respective markets. Additionally, we'll deploy capital to improve systems and processes like a new ERP or other efficiency programs. And we'll continue to allocate capital to support our growth and future initiatives. Our capital allocation includes a commitment to a robust dividend and share repurchase plan.

Our long-term capital allocation model supports our business strategy and we target a return of 50% to 75% of free cash flow to shareholders. We balance our return of capital between dividends, which we expect to grow in line with earnings, and share repurchases. Finally, M&A remains an important part of our strategy and our approach to capital allocation. We'll evaluate inorganic opportunities using a strategic financial and operational ends. Samsung's Print business and Apogee are two good examples. We expect future M&A activity to be focused on technologies and capabilities that are complementary to our existing portfolio and/or help accelerate our strategy.

With that as a framework, let's discuss our shareholder return objectives specifically for FY19. Given our current view of FY19, we expect the total return to be approximately 75% of free cash flow.

We will continue to return cash to shareholders in the form of dividends and share buy backs. The Board approved a 15% increase in the quarterly dividend supported by higher than expected FY18 earnings which were helped by tax reform and our FY19 earnings outlook. This will result in approximately $1 billion dollars in dividends in FY19. We will continue to buy back shares opportunistically based on our view of intrinsic value.

We have approximately $4 billion in outstanding authorization available for share repurchases.

Now, let's discuss the key assumptions that support our FY19 financial outlook. Our FY19 outlook for GAAP diluted net earnings per share is in the range of $2.04 to $2.14. The FY19 outlook for non-GAAP diluted net earnings per share is in the range of $2.12 to $2.22. Some of the key assumptions include: for revenue, we expect to gain profitable share. We're expecting currency to have a flat to minus 1% year-over-year impact on revenue using rates as at the end of September.

Non-GAAP tax rate will remain consistent at 16%. OI&E will be an expense of approximately $0.2 billion dollars. We're expecting the year of year benefit in OI&E to be largely offset by higher expenses in “corporate other”. Our outstanding share count has a little over 1.6 billion shares at the end of Q3 FY18 and we expect a slight decline in FY19 given our capital allocation priorities. Total GAAP-only charges of approximately $0.2 billion dollars comprised of first, GAAP-only restructuring and other charges of approximately $150 million dollars driven by both labor and non-labor costs, including charges related to employee exits, facilities and IT. Keep in mind, FY19 is the third year of a three-year plan and we remain on track.

The second GAAP-only charge is amortization of intangibles of approximately $80 million. Third, integration and other expenses of approximately $60 million. Partially offsetting, these GAAP-only charges are non-operating retirement credits of approximately $100 million.

Let's now look at the year-over-year non-GAAP diluted net earnings per share bridge.

The current FY18 non-GAAP EPS outlook is in the range of $2.00 to $2.03. The bridge to our FY19 outlook uses the midpoint of that range. The first bridge item takes into account the estimated contribution range from the Personal Systems and Print business. This increase is between $0.05 to $0.12. The second bridge item is shares and corporate which an increase of $0.05 to $0.08. This is driven by the benefit of share repurchases and also includes the impact of OI&E and “corporate other”. We expect that the macro economic conditions will remain volatile and we expect our end markets to remain competitive. We will actively monitor these conditions and new policy changes that could impact our businesses.

The table on the right is a double click by each segment. Let me cover Personal Systems first and then I'll describe the Print segment.

For Personal Systems we're assuming the traditional PC unit market to be flat to slightly down in FY 19, but the broader market including adjacencies will grow. We will continue to focus on profitable share gains and making progress with our product mix. Therefore, we're expecting overall PC volume mix rate to be a year-over-year tailwind. We also expect to continue driving productivity in Personal Systems.

Partially offsetting these PC tailwinds are first a currency headwind. We'll continue to manage any impact including any potential repricing depending on the specific cost, market, and competitive dynamics.

Second, investments in the commercial transformation, including device-as-a-service.

And third, we've included the impact of announced and implemented US-China tariffs. We're expecting a gross headwind before mitigations. However, we've been actively working mitigation plans to anticipate the net headwind to decline throughout FY 19 as our strategies take full effect.

Fourth, we're expecting the basket of components and logistics to stay flat with our Q4 exit.

And lastly, we continue to manage the available of components. We're actively working with our partners and customers to meet demand but are cautious over the next quarter or two.

In Print we're assuming a flattish year-over-year market with pockets of growth. We expect supplies revenue to be flat to slightly up. We will continue to focus on placing NPV positive units.

The tailwinds that we see in the business are we still have significant productivity initiatives in Print and are expected to drive them across the portfolio.

We've been placing more using over the past two years across consumer and commercial. And we also expect to continue making progress, advancing our growth businesses.

Offsetting these tailwinds, we see the following headwinds. Volume mix rate driven by both S-Print hardware and supplies and also declining home installed base and usage as Enrique described earlier. Investments in the business including building contractual capabilities and investments in 3D and in particular metals and go-to-market. We're also expecting a currency headwind in Print, albeit smaller than in Personal Systems.

Finally, we expect Apogee to close by the end of this calendar year, subject to regulatory and other customary approvals and are not including incremental Apogee financials in our outlook today.

Let me now move onto free cash flow outlook for next year. We're expecting free cash flow to be at least $3.7 billion. We expect slight improvement in cash conversion cycle year-over-year with approximately minus 32 days as we exit FY 19. The improvement opportunities including negotiating vendor payment terms and reduction of days of inventory. Non-recurring items include restructuring cash payments which are expected to be approximately $0.2 billion.

Capital expenditures which are expected to be $.06 billion. This includes incremental real estate investments, primarily to support our Korea offices, as part of our S-Print integration and other incremental ERP costs. And the cash tax rate is expected to be in the range of 16% plus or minus 2 points.

With what I've covered thus far on that briefly summarize our 3-year financial outlook.

Our goal is to outgrow our respective markets; increase operating profit dollars in each segment; and grow non-GAAP EPS faster than operating profit dollars.

For revenue we expect to continue being market leaders, outperforming our competitors and gaining profitable share where we choose to play. In Personal Systems we expect op margin rate to be in the range of 3% to 5%. Opportunities to expand our rate within this range will be driven by improved product mix consistent with the portfolio initiatives Alex described earlier today.

In Print, the dynamic is different given the recurring nature of supplies and services and the low to negative margins on placing hardware units. In addition, we have a diverse portfolio across different lifecycles, investment stages, and industry structures. We expect the overall Print business mix to evolve over time including a higher penetration of contractual office, graphics, and eventually 3D printing.

We are investing to support this shift while at the same time focusing on driving incremental operating profit dollars and corresponding free cash flow. From an operating margin rate perspective, we would expect Print to deliver a margin of at least 16% over the next 3 years.

To wrap up, HP is an exciting and compelling investment opportunity. We are market leaders in our core business. We're combining scale and efficient operating models with great innovation and a winning strategy. We have a stable core with recurring revenue streams and predictable earnings, cash flow, and a strong return of capital. And we have shown that we can outperform our markets in good and in the face of challenging headwinds.

The strength of our core business provides us the ability to accelerate growth. We are successfully entering new adjacent and large markets, leveraging HP's strength to create the opportunity for sustainable growth over time.

And last but certainly not least we have a tremendous opportunity to disrupt in future categories like 3D printing. We are leveraging a platform strategy, building on our long history of technology and innovation.

As I said up front, we have an incredible opportunity to capture the future. And it's truly an exciting time to be at HP. We have a track record of delivering on our commitments and the foundation to create shareholder value for years to come.

I want to thank you for joining us today and I realize that we've done all the talking so now is the opportunity, I'll invite all the other presenters up on stage so we can open up the floor to Q&A.

[Music]

[Applause]

MS. BETH HOWE: All right, so as Steve said, it's your turn. We're going to limit everybody to one question today so we can get through as many as possible. So please, if you can limit to one question for this round. If we have some extra time we'll get there but first question. Shannon?

MS. SHANNON CROSS, CROSS RESEARCH: Thanks, Shannon Cross, Cross Research. I'm curious about cash flow. Clearly very strong guide I would say given all the puts and takes going on in the industry and your business right now. How are you thinking about sort of normalized cash flow or how should we think about progression because you just gave us '19 so talk about '20. But when you look at where it's coming from and how you think in terms of contribution from 3D print over time and with stability in printers and then obviously where you're at on the PC market in terms of the ongoing refresh.

MR. STEVE FIELER: So, for FY '18, as you know, our outlook is at least $3.7 billion and now for FY '19 our outlook is also at least $3.7 billion. And just to rehash, I mean the puts and takes, sort of the tailwinds if you will, we are expecting improved cash conversion cycle, it's about a 2 to 3-day improvement year-over-year.

We're expecting higher earnings year-over-year, offsetting that of course we're assuming a lower volume in our Personal Systems business so the growth rates we have achieved in FY '18, we're not anticipating as high a growth rate in FY '19. We are expecting a higher CapEx year-over-year and fewer kind of one-time benefits.

And so, as I sort of highlighted in the presentation on a go-forward basis we do see our free cash flow over time going in line with earnings and we are tracking slightly ahead, but given the fundamentals we see today we feel confident in at least $3.7 billion for next year.

MS. KATY HUBERTY, MORGAN STANLEY: Katy Huberty, Morgan Stanley. Printer margin at least 16%, you know a little bit of a difference versus the 16% to 18% range that you have talked about historically, and it makes perfect sense when you're talking about a $12 trillion market that you're attacking, investing in distribution, but how should we think about adding revenue from those investments and when will we start to see operating leverage on the other side of an investment cycle?

MR. STEPHEN NIGRO: Mm-hmm. Shall I go? I think the financial guidance is a clear consequence of the strategies we have been explaining. If you think about these investments I have talked about, I have talked about growing share by placing more profitable units. I have talked about the investments that will be necessary to continue to grow in office with the three uncontract ones [phonetic]. I have talked about graphics. We have talked about A3. So, when we put all these things together and we balance the investments that we are making and expecting the returns we will get, we think 16% is the right guidance but reflects the amount of investment that we think is needed in the long term.

MR. STEVE FIELER: Anyone adds to it?

MR. STEPHEN NIGRO: Yeah, I mean just to add to it. You know as it relates to the growth of the business, we are expecting to grow and evolve our mix and I think that's an important part of how we see the next three years. And I think that's really the most significant change, if you will is, versus a long-term outlook, I'm comfortable within the next three years and the line of sight we see on what we're doing to evolve our mix, the investments we're making, and the productivity we're driving simultaneously.

And so it does imply that we are continuing to drive growth in our growth opportunities and with a focus on outgrowing our respective markets.

MR. AMIT DARYANANI: Thanks. Amit Daryanani, RBC Capital. I just have a question, the printing side, in A3 copy you talked about 9% market share, I assume that's a hardware number, could you just talk about what is your market share in A3 supplies, and I assume it's much below that, but what's a timeline to kind of get A3 supplies market share, which I suspect is a bigger market, to the hardware market over time. How does that work out? And then if you could just touch on Intel CPU shortages and how that's baked into your fiscal guidance-- That's a two-part question I guess.

MR. WEISLER: Hardly related.

[Laughter]

MR. ENRIQUE LORES: Let me take the question on A3. The A3, most of the A3 units are sold under contract which gives means that the market share that we will be able to maintain of original supplies will be higher than the market share that we have been keeping in our traditional business. When customers are under contract we manage the printers for them, but we also manage supplies. When units will be running out of toner, we will be bringing the toner. And we always bring HP toner.

That is the first part. In terms of how long does it take? The life of each of these printers is between 5 and 7 years which means that to get in supplies a similar amount of share than what you have in hardware it takes at least 5 years because the install base is at least 5 years old. So to gain the same amount of share in supplies you need to get that share of the install base.

MR. DION WEISLER: And Alex, do you want to take the Intel part--

MR. ALEX CHO: [Interposing] Sure, sure--

MR. DION WEISLER: --of the question because you live that every single day.

MR. ALEX CHO: --I won't talk supplies. I'll talk about Intel. So, a few things. First is we're obviously working very closely with Intel. They are a very good partner of ours and we're monitoring closely. As Steve shared, shorter term, we remain cautious. That being the case our demand for our products remains strong and we have a very broad portfolio.

We have a multi-source CPU strategy as well. And quite frankly part of the PC business we've seen volatility both up and down and we've operated in both. We've shown that the teams can execute in that environment and continue to outperform the market. We expect to continue to do so as we proceed forward.

MR. DION WEISLER: What I will say and add to, perhaps Alex being as modest as he is won't say, is that the way this team operates in both up and down markets is incredibly impressive. I often call it stitching the seams in the business. That value inside of business is stitching the seams. The work that Alex does with Stu Pan's supply chain team, together with the regions, to optimize for situations that aren't perfect is impressive.

And I think the current situation with regards to Intel is not too dissimilar to other ups and downs that we've seen in the industry in the past. We had it with memory not too long ago. We're sort of coming out of that cycle now and we're seeing it in another part of the components of good.

So we will do what this team does really well. We'll work inside our organization, we'll work with our ecosystem partners to optimize the situation. That's what this team does.

MR. TONI SACCONAGHI, BERNSTEIN: Toni Sacconaghi from Bernstein. Dion and Enrique, I'm wondering if on a scale from 1 to 10 you could rate the Samsung acquisition one year later. I think what struck me most about the presentation was sort of the lack of superlatives associated with progress so far in that business. There was just sort of a modest market share reference but nothing about how distribution has improved, about your largest customers, about penetration, about being way ahead of plan. There was none of that which one might typically expect especially given the enthusiasm that we saw last year. So maybe 1 to 10 and then a qualitative explanation.

And is it--you know it feels like you said in Q2 that printing margins at 16 were kind of bottom. And now it feels like you're going to be crawling along the bottom for a little while and I'm wondering if that's at all related to Samsung as well or if you've changed your view on investment over the last 100 days. Thanks.

MR. DION WEISLER: So I'll start and I'm sure Enrique you'd like--

MR. ENRIQUE LORES: [Interposing] Mm-hmm.

MR. DION WEISLER: --to chime in. I've just come back from a trip to Korea with a vast majority of my leadership team. And I've got to tell you that I'm incredibly impressed with what I see in this business. You know it's hard to, I don't know kind of think in the terms of 1 to 10, what I think about is what this business brought us. It brought us an entirely new, fresh, from the ground up engineered set of intellectual property and a portfolio that allows us to attack the A-market with gusto and I think that the team's made really impressive improvements at 9.2% market share last quarter given sort of a year ago we were I believe sort of sub-5%, maybe sub-4%, is really great progress.

The intellectual property that we gained through this acquisition was incredibly important for us. It enables us to differentiate. And what you don't really appreciate until you land on the ground in South Korea is the quality of the people. These engineers are really quite special. You've got to understand that one of the most iconic organizations in Korea is Samsung.

And so if you're an engineering student or you're a marketing student or you're a student of finance, you want to work for Samsung. They attract the top 1% of the top 1%. That's who gets into that company. So you can imagine the quality of the people that we have there. And I took a tour through the labs and these guys just blew my mind because I get to go to a lot of different labs.

The creativity in their thinking, the way they tackle problems, the way they're engineering from multiple disciplines, from mechanical engineering to electrical engineering to chemistry to software was really, really impressive.

And what I felt most confident about was the beginnings of a really strong blending of our two cultures. And in business we don't often talk about culture and we should talk about it much more. It is the foundation of any organization. And taking the experience that the Boise teams developed over the decades and coupling that with what the team is doing in Korea. And we've got people that have moved from Boise to Korea and we've got people that have moved from Korea to Boise and out teams are beginning to really start to think differently and start to think about the next two billion eyeballs that will come into the company. It's truly impressive.

So I'm really, really happy with the way the Samsung acquisition has gone. I think it lays an incredible baseline for us for decades to come and it gives me great confidence in our ability to tackle this A3 contractual market.

MR. ENRIQUE LORES: So let me give some more color on the operational side. A year ago I said that our goal for A3 was to capture 12 points of share by 2020. This is the goal that we have declared. In fact, Q2 we're already at 9 points. This gives you a good idea that we are in the right track to deliver on our goals.

From a financial perspective, we have also delivered on the goals that we have for the first year. We declared what they were going to be and we have made them happen. From an integration perspective, as Dion said, we are starting to see good blending of the cultures. From an operational perspective the company’s fully integrated both from a development perspective but also from a support and sales perspective. All the Samsung printing teams in every country, the supply, the services, sales teams are now part of the HP organization fully blended. We don't keep that organization aside anymore.

MR. DION WEISLER: And that's one of the reasons why we don't highlight it perhaps the way you're expecting, Tony, is that we're trying not to establish these camps of Samsung and HP. We really want to blend these two organizations. We think the power is that one plus one does indeed equal something greater than three.

MR. ENRIQUE LORES: And finally from a technology perspective many of the technologies I have been covering, many of them around mobility and mobile printing are actually technologies that have been developed by the Samsung team that are now fully integrated into the HP portfolio. So again, the integration is going well. We are meeting our goals. And we are really leveraging the technologies that they had and they are now part of HP.

MR. JIM SUVA, CITIGROUP: Thank you, it's Jim Suva here from Citigroup. There's no doubt about HP's strength in its supplies in traditional ink printing. When we start thinking about the 3D segment going forward, there wasn't a lot of talk today about HP talking about resins, bonding agents, material science company.

And us as an outside investor, not seeing your day-to-day operations, is this an area we should think about going forward of are you going to play in those economics because selling the unit at a profit is great but long term when all these components start pumping out it seems like there's an economic opportunity there. Thank you.

MR. CHRISTOPH SCHELL: So I'll start with that question. When I think about this business, it's all about getting into manufacturing. And when you have the goal in front of you, firstly, there is a lot for us to learn. Okay? As we approach it. I talked a little bit about it in my presentation. For me getting vertical expertise is super important.

Then you then dissect the capabilities of what we have to do in order to be successful it's all about speed, quality, and cost. And you are right that when we come to the cost element the materials that we sell are an important part of the bill of materials. And we do believe because there's a certain science to these materials. You know I'm actually quite impressed working with our material engineers but also with companies like Henkel and Evonik, how difficult it is to get the material ready to be able to print. So it's an art and a science, okay? And I think we're doing well with our ecosystem approach. Tapping into expertise that these partner companies have and then scaling this business together.

So that's how I am looking at this. And that's how we clearly are going forward as we add more materials to our platform.

MR. DION WEISLER: And we also said, Jim, right from the beginning that there was going to be multi dimensions to the profitability of this business. We said we would make money on the hardware. We were very clear about that. We were going to follow a razor/razor blade money model.

We also said that we'd made money on materials whether they be materials that we make and sell or those that are authorized on our effectively like what is an app store but it's a materials store by our partners that are making materials for our platform where we will take a click charge there.

We also said that we would make money on services and solutions. And what Christoph talked about today is the power of the data. That four terabytes of data inside every build on a multi-jet fusion platform is vitally important. And it's going to enable us to tap into new profit pools in services and solutions. So, this not a razor/razor blade model. It is not a closed system. It is an open system. We've invited the ecosystem because we believe if you're going to drive the next industrial revolution you're going to need an entirely significant set of partners to do it. And so the platform is open. We're inviting people to develop materials for the platform. We're inviting people to develop agents for the platform. We're going to make money on all of those. And we think that that is the appropriate business model when you're trying to drive the next industrial revolution.

MR. DAVID RYZHIK, SUSQUEHANNA: Hello. David Ryzhik, Susquehanna, thank you so much for taking the question. Enrique, in one of your slides on the four-box model, on the office section, you had pricing going down as it changed from last year. Can you just elaborate on what you're seeing on the pricing? Is that A3, A4 pricing? What are you seeing from the remands and the clones? And in that context, you've made some good progress on A3, you're talking about maybe it sounds like a little bit more aggressive on the pricing to take share, why wouldn’t we see more than maybe flat supplies growth? Should we think of that as maybe conservative, like a conservative bar? Thanks.

MR. ENRIQUE LORES: Okay. So let me explain the average pricing in the office space. I remind you that what we are showing in the chart is price of supplies. And actually in this case it's from a customer perspective what is the cost per page that they will have to pay. The cost per page in A3 is significantly lower than the cost per page in A4.

So as our install base of A3 printers grows our cost per page gets down. The cost of A4 will stay stable; the cost per page in A3 will stay; but the mix drives the total price down. This is what we are reflecting in that chart.

And this is why I made that comment that even if the average price will be going down because of this the higher volumes driven by A3 printers will more than compensate for that because--

MR. DION WEISLER: [Interposing] And the increased share.

MR. ENRIQUE LORES: And the increased share. Because this is really going to be overall A3 the initiative in A3 is going to help us to grow our supplies business.

In terms of the forecast for next year we have been using the four-box model for a while and it has been a very good predictor of the performance that we see. And we will look at '19 and we input all the ins and outs, all the ups and downs, and that growth in the different segments, flat to slightly up is what the model is projecting and it's what we are going to be delivering.

MS. BETH HOWE: Let's got to this side.

MR. ROD HALL: Yeah, hi, it's Rod Hall with Goldman Sachs. I just wanted to follow on from that, Enrique, and see if all three changes you made to the four-box model that you highlighted were I guess incrementally a little bit more negative. And what I'm wondering is what could go well there. So could you talk a little bit about what would potentially put you at the top end of that range with the slightly up end or maybe a little bit better in terms of supplies.

And then I also wanted to clarify the commentary on Intel. Is there a possibility that could benefit you guys because you get supply and others don't?

MR. ENRIQUE LORES: So let me address the question on supplies. We were, with the model we explained, what are the variables for the different segments? As I, in the office space especially, the higher growth of A3 is going to help us to increase the overall volume of supplies. But also the relative mix is going to change. Office will be growing faster than consumer, office customers print more, and graphics will also be growing faster. And graphics customers also print more. So even if in some of the assumptions there are declines when we aggregate the total model the projection is that supplies will be flat or slightly up in 2018.

MR. STEVE FIELER: And just to add to that I wouldn't interpret that as negatives, these are not surprises to us. You know the S-Print installed base, the things that Enrique described are very well known and that's why that they had been captured in our outlook previously.

MR. ENRIQUE LORES: Yeah, that's a great comment because as I also said the forecast we have now is consistent with what we announced four quarters ago. None of them are surprises, are things we knew were going to happen. Last year we didn't include any of the Samsung numbers in our chart because the Samsung acquisition was not still completed. We're reflecting it now for the first time. This may be seen as new but in reality they are things that we had built into our model for a long time.

MR. DION WEISLER: And to the second question, it's probably a better question for Intel, we would like to think that we would get our own fair share of supply. Having said that, if you think about the mix of products, we're market leaders in the commercial space and as Intel work through their allocation policies I guess they will make judgment calls on what are the most valuable parts to them, probably starting with servers and then making their way down the stack. But we will work very hard to optimize the situation on behalf of our customers. And we do that and have done that consistently with Intel over time.

MR. WAMSI MOHAN, BANK OF AMERICA MERRILL LYNCH: Thank you. Wamsi Mohan. Enrique, when you go back three years and look at sort of what your expectation was for contractual versus transactional, you're thinking maybe 25% by fiscal '19. Last year you said 40%. This year it seems 30% by 2025. So clearly, you're making progress and that's in the right direction in terms of mix but what are the things that you are seeing that is causing sort of a lower transition towards contractual.

And either Alex or Steve, if you could just comment really quick on the PC component side, why isn't memory pricing going to be a huge tailwind for you guys. What are some of the offsetting factors? Thank you.

MR. ENRIQUE LORES: Actually let me explain what we have done. The progress we have made is aligned with the expectations that we had a year ago, two years ago, three years ago. What we have changed is how we classify our business.

In the past we were classifying in the contractual category all business hardware, supplies and services; that from a customer perspective was both a contract one. But in some cases, these contracts were not with us, it was with the channel.

When we talk now about printing-as-a-service, we are including only the hardware that is opening the opportunity of having a direct contact with the customer from us. And this is why when last year we were projecting 40, this year we are projecting 30, but this is because we have removed that hardware.

Because from an HP perspective it's a transactional sale even if from a customer perspective through the channel it's a contractual sale. But we think this is a more pure model that reflects better the reality of what the business will be for HP.

MR. DION WEISLER: We don’t want to put any perfume on anything. Right? This is as real as it is.

MR. STEVE FIELER: Wamsi, let me just take the second one. I'm distracted by the perfume. Okay. So, you know as Steve shared this, our assumptions are that the overall basket will be flat to our Q4'18 assumption. Of course there's puts and takes within that basket. But the increase this year we believe will be stabilized as we exit Q4'18 and then again within that environment we've got puts and takes in the overall basket.

MR. AARON RAKERS, WELLS FARGO: Yeah, thanks. Aaron Rakers at Wells. I kind of want to go back to that answer in that question. You know clearly we've seen some of the key component pricing come down. Flash has come down quite a bit recently. D-RAM starts to come down here looking into Q4.

Can you help us understand as you've looked at your trends over the last year or so and you've seen mid-single, high-single digit ASP increases how much of that type of ASP increase has been driven by component cost pass-through relative to maybe how we should think about that on a way day of do you hold onto some of that margin, do you pass it through pretty quickly. I'm just trying to understand how we think about that balance in the model.

MR. STEVE FIELER: So maybe I'll comment first and if you want to chime in Alex.

MR. ALEX CHO: Yeah.

MR. STEVE FIELER: So when we look at sort of the past several quarters and there's no doubt that our overall pricing has been supported by various dynamics including commodity costs as well as dynamics with FX. And depending on the particular quarter it ranges anywhere from probably a third to a bit over half of the pricing increase has been a result of mix with the delta being the other factors.

So that's why I think as we look forward in some of the initiatives that Alex described our focus is on pushing a better product mix that's a more sustainable pricing dynamic than whether it be the currency or the commodity costs that we've been able to price up for.

MS. BETH HOWE: Let's take one more question please?

MR. STEVE MILUNOVICH, WOLFE RESEARCH: Steve Milunovich at Wolfe Research. I guess most of the questions have been asked but I have a little bit different. Dion, there are a lot of advantages to breaking up HP initially in terms of the focus of your business and so forth. One of those was the ability to put your own board together for the first time to have a board that's aligned with your business.

Can you remind us first of all who's on the board and do you have any example of how they've helped you make decisions given their history in industrial or whatever that kind of fits with what HP is about today?

MR. DION WEISLER: Yeah, we've got a few of them behind me, our board members, you want to stand up? So--

[Applause]

MR. DION WEISLER: I think that you know it's unusual for us to have so many board members at a Security Analyst Meeting at least in the old world. In the new world it is commonplace because the board is just an extension of our leadership team. That's how I think about them.

I got to do something together with the old non-gov committee of the old co-organization that not many CEOs get to do. I was able to be involved with the selection and the putting together and the composition of our board of directors. And there were a couple of things that we set out to achieve in both organizations.

The first thing was that as we thought about HP, we thought about what kind of company were we today and what kind of company did we want to be. What skillsets would be useful for us in the short, medium, and long term? And based on that how could we assemble our board of directors that matched those skillsets for what we would need over the short, medium, and long term?

Keeping a caveat that we wanted to build the most diverse board of directors in the industry. It was very important personally to me and to the non-gov committee, to Meg, that we have this very broad representation of skillsets and backgrounds and gender diversity and cultural diversity because our next two billion eyeballs will not come from the places that we have traditionally seen them come from.

So we went to work and we've got incredible people on our board. It is the most diverse board in corporate tech in America. We've got sitting CEOs, our chairman is Chip Bergh. It's the CEO of Levi's. We've got material scientists on the board. We've got micro fluidity experts. And you're going why on earth do you need a micro fluidity? We're a micro fluidics company.

We talked about Moore's Law and what we've done with thermal inkjet on a print bar this wide that prints in two-dimensional inkjet printing. There's 40,000 nozzles that spray a billion drops of ink per second with 21 microns of accuracy. That requires expertise in micro fluidics. So we've got the world's expert. Subra is a leading professor in this area. He also has been with Carnegie Mellon and now with a major university in Singapore.

We've got people with financial expertise, Bob sitting there in the back has had a long career both as a CEO and CFO and really serves as our leader of finance and investment and technology, bring enormous value to the organization.

So every single member of our team is really an extension of HP and our management team. And we invite them into our business. They're here at SAM. They're with us at our global partner conference. They're with us together with our team, each of them has a board buddy assigned. And so we have a very close relationship between the management team and the board of directors and we encourage them to go on site tours with us. We've been to Barcelona together. We've been to China together. So we view markets.

And so now we have this extra set of very professional, highly experienced board members that help us navigate a world that is changing very quickly around us. So I couldn't be prouder of the board that we have been able to assemble and that help guide us very single day.

MR. ENRIQUE LORES: Maybe let me give a couple of specific examples that will bring what Dion was explaining to life. One of our board members used to work in a business that has a very similar business model to print. We lose money on printers. We make money on supplies. And from the first day he challenged us on our model, especially on how are we managing the supplies business. And if you remember two years ago we did a big adjustment of how we managed supplies. We went from a push model to a pull model. That concept came from a discussion that that board member created.

Another of our board members is an ex-Google employee. And from the first day he pushed us in the need to focus on mobility. He gave us a very hard time saying, yes, you have a great model to work with PCs but your printers should be designed to work with mobile devices. Look at the progress we have made. That conversation actually started in the first board meeting of the new company.

And these are just examples of the value that you get when the board members understand your business and they understand the industry and have experiences that can really be brought to the business.

MR. DION WEISLER: And he's talking there about Stacy Brown-Philpot and she's the CEO of Task Rabbit. And she's our millennial board member and it's fantastic because every board meeting I get these new insights and then I go home and I say something that Stacy said and in the eyes of my two teenage daughters I am now brilliant. So Stacy--

[Laughter]

MR. DION WEISLER: --is a fantastic addition to my family dynamics. It's fantastic.

I would like to thank all of you for spending so many hours together with us in the innovation showcase upstairs, seeing, feeling, touching the products and the innovations that the engineers are working so hard to deliver every single day.

And then sitting through countless hours of PowerPoint charts, nobody took out the HP elite clicker because you all have the power to advance the slides faster--

[Laughter]

MR. DION WEISLER: --but you didn't take it, so you must have been enthralled with what we were saying. But we really do thank you for being part of our community, for engaging with us every single quarter on an earnings call, for spending so much time here trying to understand our business.

We aim to be as transparent as we possibly can to ensure that you understand the opportunity that we see inside the company. So thank you for that. Please join us for cocktails after and if you haven't seen the showcase, make sure you go and do that Thank you very much.

[Applause]

[Music]

[END RECORDING]