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WEBINAR

HOW ROBOTIC PROCESS AND INTELLIGENT AUTOMATION ARE REMAKING FEDERAL AGENCIES

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ANDERSON COURT REPORTING
1800 Diagonal Road, Suite 600
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

PARTICIPANTS:

Moderator:

DARRELL WEST
Vice President and Director of Governance Studies
Senior Fellow at the Center for Technology Innovation
Douglas Dillon Chair
The Brookings Institution

Panelists:

MEIKLE PASCHAL, JR.
Program Manager, Robotic Process Automation (RPA)
United States Citizenship and Immigration Services (USCIS)

GABRIELLE PERRET
Director of the Federal RPA Community of Practice - Robotic Process Automation Division
U.S. General Services Administration

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P R O C E E D I N G S

MR. WEST: Good afternoon. I'm Darrell West, vice president of Governance Studies at the Brookings Institution. I'm pleased to welcome you to our webinar on how robotic process and intelligent automation are reshaping federal agencies.

So, we live in a time of dramatic change. Automation is being deployed in many different sectors, ranging from healthcare and education to transportation and e-commerce. One of the areas where robotic process automation is proceeding briskly is the Federal Government. And I have a new Brookings paper out on this subject. In that paper I discuss what robotic process and intelligent automation are, how these tools are being used in federal agencies, and how to use them effectively. And I argue that the climate is spreading rapidly, the tools are increasing worker productivity, and that the keys to future usage are developing best practices, enhancing workforce development, and thinking about responsibilities. And for those who want additional details, you can find this paper online at Brookings.edu.

To help us understand these and other issues related to technology innovation we are delighted to have two distinguished experts with us.

Gabrielle Perret is director of the Federal RPA Community of Practice in the U.S. General Services Administration. And Meikle Paschal, Jr. is a program manager for Robotic Process Automation in the United States Citizenship and Immigration Services.

If you have questions for our panelists, you can email them to events@Brookings.edu, that's events@Brookings.edu, or tweet @BrookingsGov using #AAIGovernance.

So, Gabrielle, I'm going to start with you. So, you direct the Federal Community of Practice on Robotic Process Automation. What is this Community of Practice?

MS. PERRET: Thanks, Darrell. The RPA Community of Practice was formed in April 2019 with the goal of accelerating the adoption of RPA across the Federal Government. And since then, it's grown to more than 1,200 federal members that represent 65 Federal agencies and bureaus. Our membership is open to federal employees and federal contractors with a .gov or .mil address. I'll chat the

link if anybody's interested to visit us and sign up and then chat our email address too.

Our community serves as a platform for knowledge sharing of best practices and use cases through our different publications, our webinars, and also our open office hours with subject matter experts. We also have quite a few newsletters that we send out throughout the month that show the latest updates in the Federal RPA sphere from jobs to news. Our goal simply is to help federal agencies initiate and mature their RPA programs.

MR. WEST: So, Gabrielle, just a quick follow up on that.

MS. PERRET: Yes.

MR. WEST: So, I know you've been working on federal agency deployment and actually you and your colleagues have undertaken some research on this.

MS. PERRET: That's right.

MR. WEST: So, what are you finding across the Federal Government and how has deployment changed over the past year?

MS. PERRET: So, we've done a couple of great publications and a couple of surveys folks may have remembered from over this summer. First up we published the Federal Use Case Inventory. Last year we collected I think it was about 250-ish use cases. Those are available up on our website if you want to have a read through of them. This year we collected 985 use cases for RPA across the Federal Government. Some interesting things from the use cases this year. This may come as no surprise if you have RPAs in place already at your agency, over 50 percent of the use cases related to financial systems, 15 percent were related to administrative services, 8 percent acquisitions, 7 percent HR function, and 6 percent IT function, which is pretty interesting to see kind of a layout of where folks across the government were using RPA, other different processes.

We also this summer conducted our annual maturity survey. Programs reported to us saving almost 1.5 cumulative hours and over 60 percent of those who responded to our maturity survey said that they had over 20 automations in their pipeline. And this really shows us demand for RPA is strong and growing in the federal sphere.

With relation to integrating some IA technology into RPA programs, 32 percent of our respondents said that they integrated some sort of IA technology, which they had responded with different things, whether it's machine learning, chat box, AI, natural language processing, or image recognition.

So, you can view our 2020 state of RPA report with the results from last year. That's up on our website. And we are working hard right now to get the 2021 update to the state of Federal RPA up on the site. So that should be pretty soon. We're just kind of finalizing our report now.

MR. WEST: Well, those are impressive numbers. If you have 985 use cases this year.

MS. PERRET: 985.

MR. WEST: And that is a huge increase, even over last year. So obviously lots of interest going on there.

So Meikle, I want to draw you into the conversation because you are on the front lines of this kind of innovation as a program manager for Robotic Process Automation in the United States Citizenship and Immigration Services agency.

So how is RPA being used in your particular agency?

MR. PASCHAL: Well, first I want to start off by saying I just submitted our section for the Federal Community of Practice. So, we're very excited to be a participant in it this year. We're like a little over 18 months into our program, so I'm very proud of what me and my team have accomplished.

At USCIS we really took an enterprise approach to automation. I mean we knew that this was going to be a powerful tool for the government, so we wanted to make sure that it was accessible to everybody. We're seeing that automation can — you know, a lot of these government agencies using automation have very similar functions across the government. They've all got HR, procurement, financial services, auction operations, mission support. And what we're trying to do is make sure that everybody has access to that. Whether you have the skill sets or the manpower, we're able to get you that automation capability. Because at the end of the day we're seeing that automation at CIS, which is a very data and information driven agency that works with citizenship. We process a lot of volumes—, like millions of volumes of applications and what we're seeing is that really accelerates the completion of

tasks, which translates to making life better for our citizens and the people who are applying for citizenship.

MR. WEST: A quick follow up for you. Are you finding actual improvements in worker productivity, agency performance? Like what are the metrics that you would use to measure impact?

MR. PASCHAL: So, it's funny, because there's the traditional old school way of just what is your ROI, what numbers, how fast are things pumping through. And we love to collect that. But we really focus on the value at CIS. And value, it's a little bit of a broader term, but it really can be interpreted to show the impact that it's making on our workers and the people who are actually the consumers of what CIS provides as an agency.

I'll give you a pretty cool example that we have. Recently we actually just had a really big win. Our director of CIS had a requirement from the GAO to manage —- process 7 million pending applications for immigration cases. This was typically done manually, where we have people who scan through seven different databases, and they try to find opportunities to consolidate their information and make sure it's accurate across those databases. This was being done manually and we had a mandate to have this done by September 30 of this year. At that time, 6 million of those —- I'm sorry, 5 million of those cases have been processed. So, we had 2 million left and a little bit over a month left to complete it. A dour director said, you know, we're facing a unique challenge and we can't use conventional solutions. Well, little did she know that we had actually built an automation within three weeks that allowed us to process 2 million cases in 90 minutes. So, 16 months versus 90 minutes is really showing the value, because at the end of the day the processing time, the dollars saved, which is outstanding. For me it's the people who get to move through our system a little bit better and get to see the real-world impact for automation.

MR. WEST: Gabrielle, people often complain that the Federal Government is slow to innovate, but it sounds like based on the numbers that you are reporting, and also what Meikle was just talking about, that innovation actually is unfolding.

So, question I have is there are well known problems that limit innovation in the public

sector. You know, organizations are siloed, there may be cultural barriers to change, you can have challenges in terms of procurement systems, and so on. How were you able to overcome some of those obstacles and innovate to the extent that you have been able to?

MS. PERRET: Yeah, I think there's a lot of common obstacles, you know, that agencies face when started implementing and scaling RPA programs. One of the most common challenges I hear that folks have is with the IT security and they're, you know, working to navigate around those and come up with some solutions. And the best answer I can offer there is to build a good relationship with your CIO shop. It seems like the most successful programs who have been able to scale up from pilot, to scale up to almost 100 bots, those have scaled by working really closely and building good relationships with their IT department. If you need help in this area, you can join our Community. I can connect you folks sometimes within your own agency or at other agencies or organizations who are happy to share their experiences and give you some advice and ideas.

I'll mention this year the RPA Community of Practice has launched our first ever mentoring pilot program. And we had 15 agencies sign up to be mentees. So, we are in the process of now of pairing them with experienced mentors, subject matter experts, and RPA leads across the government at more mature programs to kind of experience share and give advice and help to solve some of these really common hurdles that people face.

MR. WEST: Meikle, I'd like to ask you the same question, just directed at CIS in terms of the barriers to innovation and how you have been able to overcome at least some of those barriers in your agency.

MR. PASCHAL: I would say that security is probably the wide most known barrier to jumping in. I mean really, it's fear. You know, like everyone is afraid that these bots are going to run off and download a bunch of information, they're going to be built I a silo where nobody really understands it. So, what I try to do is I try to bring it up to more of a rudimentary level of understanding when we go through how we handle our security challenges. And just the general fear and trepidation behind automation.

This is something new to the government, so anything new to the government is scary, right. I like to say when I first got the role of implementing RPA, it was like the guy who had to delay Christmas because it was like — everybody was like, hey, it's here, let's go, Mike. Slow down, you'll get your presents, but we've got to make sure we do it right the first way. And in doing it right — what we did is we establish a governance which allowed us to build something that was repeatable and consistent to develop these automations. So, what we did is we built a repeatable process so that anybody who is doing automation in the agency would have to go through the same steps, the same security gates and checks to make sure that their bots were being built responsibly. This is what we call technical excellence, right. Our bots are built for resilience. They're not going to be built without people understanding what is being developed. In addition to that, we have insight into what people are building because we can track it from the platform that we have. We have a way to keep eyes on to make sure that these bots are being responsibly and are touching the right systems.

I like to say this allows us to get our customers, our consumers of RPA, from point A to point B, right. You want to do it consistently because then security gains our confidence. And they say, okay, we've embedded our security personnel into our teams so that every automation that gets developed they have insight to. And everybody who wants to do automation has a pathway to it that's not going to be over complicated or intimidating, because not everybody has the technical acumen or skill sets, but we can teach you that.

So, what we do is we built a highway essentially to get you from point A to point B. And highways are a little scary when you first get on them because you're like, wow, these cars are going really fast. But once you drive on the highway a couple of times, then you're like, all right, I can go in the fast lane, we can do this a little bit better, a little bit faster, more confidently. And I think that that's really instilled the sense that our automation and RPA is something to be embedded in the CIS culture. I think some people will now see it that they can't do without automation, and they won't go back. So, it's up to me and my team to make sure that we're doing that responsibly and keeping security, you know, happy and in a good place.

MR. WEST: Gabrielle, there clearly will be a number of workforce issues here. One, just in terms of how do we get federal workers trained to the point where they can undertake these types of tasks and innovate in particular ways. And then, two, you know, there's always this fear about automation taking jobs. How are you dealing with any fears that might develop out of those types of issues?

MS. PERRET: I think that is always a common concern we hear, is automation taking jobs. But really what it does is, I think, is to build capacity within an agency and it allows federal employees really to accomplish more in their day than what they could have otherwise.

Like I thought Meikle's example of the new processing of the immigration forms was great. Like what used to take a really manual process of how many hours can be done almost instantaneously. And I think that allows more room for federal workers to really deliver on agency missions. I mean imagine if you could get twice as much done in your day as you could normally do. I think it really opens up a lot of potential to delivering better services to federal employees and also, you know, as Meikle's example, to citizens too. For agencies to train up their workforce on these new automated tools. The Community of Practice offers some great resources for folks, you know, new to the technology, to folks who are looking to scale their programs, looking for ways to go from 1 bot to 100.

We host open office hours with our subject matter experts on the RPA Community of Practice's management committee. Our subject matter experts are the RPA program leads at some really big agencies — DoD, GSA, Social Security, National Science Foundation, NASA, Army, USDA, and Treasury's fiscal service. We have open office hours with them about one to two times a month and they're usually centered about some hot topic that's going around. But folks are always welcome to come and ask these experts anything that you want to know, any question, any issue or hurdle that you're having in your journey. And, you know, please, you're welcome. These are open ask me anything style office hours. They're a really great resource to connect with experts across the government.

The Community of Practice also holds webinars, about one to two a month, on different types of topics. Usually these include demos of different bots and different use cases at agencies. For example, this September we held a two-day event talking about financial systems and financial system

bots and the financial management workforce. We had some great CFOs across the government join us and we got demos from Forest Service, Department of State, GSA, and others to show us financial system bots in action.

In September we heard from the Naval Supply System Command. They showcased their recently scaled program. And over the summer the Department of State came to talk to us about a very cool application — RPA application they used at the start of the pandemic to process repatriation loans when the pandemic had really come in full force and Americans needed to come home and take out these repatriation loans. They used RPA technology similar to Meikle's example of something that could have taken years to complete of a very manual process of information, to two months that they have this wrapped up. So that was a great impact for citizens.

So, you need help at any point in your journey, the RPA Community of Practice is here to connect you with resources and people that you need to ask questions and help you get started or scale up.

MR. WEST: So, Meikle, how does CIS handle this issue of workforce development? I imagine people don't always have the background necessary either to understand or deploy these types of solutions. How are we getting workers up to speed on using these types of new tools?

MR. PASCHAL: Great question.

So, the need for workforce development is kind of like — arises from like how do we get this — how do we spread the love. How do we get everybody involved in automation, right? I think we were solving more than one problem, but our first approach was what they call build a bot session, which are like in person classroom settings where they basically walk you through how to build a bot using the RPA software. And we find that that's pretty good. That's good hands on. I think a lot of people like to be in person and be able to ask questions in real time.

An alternative is self-paced training where we're able to coordinate. It's funny because the majority of our people who have been doing the training are like in our HR and back office and mission support community because they're handling so much data that there like there's no way that I

can sit here and process all of this and then try to, you know, do all my other responsibilities. So, they've actually been the most aggressive in terms of trying to get the training and doing at home self-paced training. We've even seen people doing the training in their off hours.

But I want to talk to you about another thing in terms of how we make sure that our workforce is equipped with this. We have what I like to all robotics as a service, which is our in-house team of business analysts and developers that if you don't have the manpower or resources or time to learn how to do this, we have a team that can actually help you to do automation at CIS. They follow the same exact development process, which ensure that security is happy, the integrity of our automation and our work. It's just that, you know, what they do is they sit down with the actual people who are doing the front-line work and they go through the process of what they're doing, and they translate that into a set of technical capabilities, which ends up being our automation.

So, what I call robotics as a service and then citizen development, which is what you would have if you were somebody who got trained and actually did the automation for yourself, I like to think of that as like the difference between taking an Uber and renting a car. Like you want to learn how – – if you know how to drive and want to drive yourself, you have that capability. If you need somebody else to help you get from point A to point B, you have that option of ride sharing service available. And that is within robotics as a service.

So, this kind of rolls back up to our entire goal of we want to make sure that automation, our enterprise program, gives accessibility for everybody across the agency, whether you can do it, whether you're in procurement, whether you're in some obscure function that just you know that you need automation. We have the capability got get it to you through our services or through helping you get trained and be able to do it.

MR. WEST: Gabrielle, I think you earlier mentioned this issue of scaling up innovation. And, of course, that always has been a challenge because it's possible to have a small pilot project that yields positive results, but then scaling that up to a whole division and a whole agency often is challenging.

So how are you or other agencies handling this issue of scaling up innovation?

MS. PERRET: Yeah. So, I think this is great area. Folks are looking to scale up right now, connect with the experts in the — the subject matter experts in the community, get advice from others who've done it. I find a lot of times agencies will have a few different RPA programs running within the same agency. So, you may know each other, you may want to connect. I can be that connection for you if you need to know who else I your agency is doing RPA projects. I'm happy to help facilitate that conversation.

Another great resource if you're looking for use cases to start a pilot or if you're looking for use cases to go from pilot to a few bots running, check out the Federal Use Case Inventory. Like I said, we had 985 use cases in all different areas, you know, and 50 percent of those are financial management systems.

So, I think that's a great place to look for — if you're looking to scale up. Look through the Use Case Inventory. We have the POCs for all of those use cases. So, you're welcome to reach out with those folks too and find out what systems they're running, where else you can connect and then talk about how they were able to scale as well.

MR. WEST: Meikle, how is CIS handling this issue of scaling up? How do you move from these small pilot projects to something that is either division wide or agency wide?

MR. PASCHAL: Well, it begins with building the trust initially. So, we started off with a lot of mission support and back up these operations, which are more we were doing a lot of Microsoft Excel manipulation, aggregating data a lot quicker. And that kind of helped people to do a lot less of the manual grunt work and focus on more like the critical thinking. And what we built off of that was an ability to show that these automations are — there's automation capability for anything that's a repeatable task that you do all the time.

And then in scaling up, it's funny, because we actually went on this road show, and we were doing demos to everybody across the agency and everyone's like let's see what this automation looks like. And you press a button, and it goes (indicating), and it does your task within 30 seconds. And

then they're like, okay, that was it. You know, like, yeah. It's not always the coolest looking thing, but it is pretty efficient and effective.

So, what we've actually found is that giving people an opportunity to kind of voice some of their problems, giving them for that, we've actually developed an intake process that allows people to submit their issues that they're having and that allows us to kind of do some analysis and say, all right, this is something that we can automate. And we actually score it based off a set of metrics and we reach out to those teams and that allows us to have a steady pipeline of incoming ideas.

In addition to that, people in the government talk. Anybody who is in the chairman field or mission support knows that they reach out to other agencies, and they have insight into the type of work that they're doing. So, what we found is that people are taking that initiative on themselves to come back and bring automation ideas. And it was kind of actually — there was an overwhelming response because we were thinking like we don't have enough — we might not have enough licenses to service all of these people. But in starting to go through our intake process, what this allows us to do is determine like how valuable this is going to be to some people. Some people are saying, hey, look, we have to transcribe all of this data from paper applications into digital and like there's no room for error there. You can't fat finger it and then all the sudden somebody's name is showing up twice. I mean, you see the way my name's spelled, that could cause a lot of problems just submitting an application.

So, what we did was we looked for the value in terms of what those automations are going to bring and that helps us to prioritize the next set of work that we're going to be doing. Because we could automate the entire agency if that was our mission, but it's really to focus on these critical tasks.

So, scalability is kind of coupled with the valuableness of the automations that we're doing. So, what we found is that there is a lot of ideas coming in, which is great. And we've actually been trying to taper them to focus on some of the bigger impact one. And that was kind of like the benefits example that I gave earlier, where we were able to adjudicate — to process 2 million cases and be able to help our director kind of see a solution of something that we didn't think was capable like a month ago.

MR. WEST: So, Gabrielle, I want to —

MR. PASCHAL: Did I answer your question? Did I answer your question? I like to get excited and talk sometimes.

MR. WEST: No, that's a great answer. Appreciate all of the detail.

So, Gabrielle, one of the issues that I think each of you has mentioned is security concerns and how that can act as a constraint on innovation. So, I think Meikle gave the example of is the bot going to be automatically downloading information in some way that could be insecure of dangerous. So, Gabrielle, I'd like to get your sense — and then I'll have the same question for Meikle — how do we handle the security concerns, how do we make sure that the automation is doing the things that we want it to do as opposed to other things that could be risky?

MS. PERRET: Yeah, I think it's important. You know, like I had mentioned earlier, building relationships with your CIO shop early on, ask a lot of questions, understand the process. I think Meikle had mentioned getting a security person embedded onto your team. I think that's a great idea and I've heard that from a few different RPA programs. That's been crucial to them having successful programs that scale. Having some process improvement folks there is great too. Making sure that you have a lot of different voices of all your stakeholders in the same room.

MR. WEST: Meikle, your answer on security and how we build security into the bots and automated programs.

MR. PASCHAL: So, one of the things that we first set out to do was just to make sure that we had a way to deploy these licenses to people and not have them just automate without any size on them.

It was funny enough that when we try to deploy the licenses to people, we found that just doing it on a regular government furnished equipment computer it didn't' work. We sent our team to a build a bot session and they're like, okay, we'll just download it there and we're ready to go. So, we had to build out a process to make sure that the right people were gaining access to the software. And this is kind of controlled the same way that you would download like any type of application on your computer, except that we restricted the access to people who had requested it and had been approved. So, we

managed that centrally. So now we understand who is actually has automation capability in the agency.

In addition to that, what I'll always emphasize is that you can't do automation in a vacuum, and you can't do it alone. You need a team that's going to support you. Because without a team you're going to be spread too thin to be able to monitor what everyone's doing for their automation.

So, I have a wonderful team that we contract out that allows us to basically go and support all of the individuals who have licenses. And this allows us to implement our governance so that security can be maintained. And we embedded — it was quick, it was easy. It was like a no brainer to make sure that security was a part of our team as we start to do the development for automations.

I feel like there was another point I want to make, but just in terms of security, like we have an opportunity where we continuously scan the bots to make sure that they're connected to the right systems, to make sure that there are no vulnerabilities, we handle all the typical IT security processes. And what happens is when our bots are finally deployed in what we call production — because there's a development, a test, and a production environment — this manages the development phases of the automation. And by the time it's in production we lock it down in configuration control, which means you can't change the automation that's deployed to your computer. It's like almost like frozen in place. It will only do what it has been developed to do. So, at that point, we know that people can't change what the bot is going — what type of information the bot will be receiving, and we already know what systems it touches. So, and this is going to sound wild, but actually it's safer to use a bot than it is to — where if somebody were trying to do something nefarious, they're going to find a way to do it typically. But they're not going to do it through automation because we've locked down what that bot can do.

So that's one of our security controls that we implemented. Just to make sure that you know, I mean security is of the utmost importance because if one person starts speeding on the highway, they're going to ruin it for all of us and we're going to be back to driving all these back roads with stop signs and traffic red lights everywhere. So, we make sure that we got the configuration and our security locked down pretty tightly so that everybody has this opportunity.

MR. WEST: Great. We're starting to get some questions from our audience, and I would

like to remind our other audience members they can send their questions to events@Brookings.edu or they can tweet @BrookingsGov using #AIGovernance.

So, one question that has come in, it's from Sandy Apgar of CSIS. Wants to know are robotic innovations best introduced in government organizations by independent consultants or internal staff?

Either of you want to jump in on that?

MR. PASCHAL: Yeah, do you want this one?

MS. PERRET: I can chime in a little bit. It's interesting, one of the questions that we surveyed the group this summer for our maturity survey is who is — how do you build your teams. Like what was the proportion of contractors to federal employees, part-time people to full-time people. I think some agencies are starting to dip their toes into using citizen developers, like trained up employees, upskilled employees at their own agency. So, it was interesting, I talked with a lot of different folks about their responses, and I think my takeaway from that was this was pretty unique to each agency. Like whatever is the right balance of contract support and federal employees that, you know, could be very unique to each agency.

What do you think, Meikle?

MR. PASCHAL: I think you answered that beautifully.

I also think that it would be silly to discourage the input from anyone regardless of their status. This isn't a — you know, it's not a fed versus contractor versus consultant thing, it's what is the best for this agency. You're here, you have a job to do. I think everybody — I don't think anybody shows up to work saying like I'm going to do a bad job. Let me submit some trash ideas for you.

MS. PERRET: Or I have a bad idea I want to share with everyone, and everyone brings their good ideas. (Laughter)

MR. PASCHAL: Let me throw out this brick real quick and let me see what happens.

I say that in jest because we want to take ideas from everywhere. Like the process is built to be able to sift out what is not going to be viable. And even bad ideas are not bad in terms of the

value it brings to the agency because we can reroute those through our intake. Maybe it's not something that's used for automation. Maybe it's something that needs to be on a different type of platform. Maybe it needs to be automated or fixed and share points, service now. There are so many other avenues. But what we do is we take those ideas, and we build an inventory, similar to like that impressive 900 Use Case Inventory you were talking about earlier. We build our own internal inventory and as we go through on a biweekly cadence, we get to figure out what makes sense and what actually needs to be shifted and we — you know, we actually give some work to other teams that might be able to fix their problems differently.

I say this because like when it comes to automation, a lot of people — like there's all this technical and digital transformation that people are doing in the government and that is beautiful. Systems are being upgraded and modernized. Sometimes we can't afford to wait for that to happen, so we need to build an automation to bridge the gap. And then sometimes there are other solutions that are better than automation. You know, you would expect me to be an automation zealot over here, but automation isn't for everything, but it is a very powerful tool that can help you in the mid-term while you're still looking for a long-term solution. Or it can be a long-term solution for some of the work that you're doing.

MR. WEST: If I could just ask a quick follow up on that. What are the factors that would lead you to think a task was open to automation versus an area that would not be so useful for automation? Like what are the criteria, what would distinguish the use versus a non-use application?

MR. PASCHAL: So, it's cool. We have a template that generates that information and populates it with a score. But the most obvious candidate is it repeatable. Does this have to be done different ways each time, can it be designed — and that's where — and if it's not, then typically we — that's where we start to look at it a little more judiciously and determine, is this something that like just can't be done the wrong way and it's only done one time. Maybe we can automate it, maybe that's a good use of our resources. Because we don't want people developing automations for nothing.

Another candidate is — and when we start to see things that have changing or varying

information, that's when we start to get into the AI, artificial intelligence and the machine learning and the document understanding, how can this transcribe your information. But at the core of it, repeatability is the common denominator amongst most automations to make sure that, one, the bot knows what to do because if you have a newborn puppy and you tell it to sit and it doesn't sit, well you haven't trained it to sit, so you can't really be made at it, right. Bots don't make mistakes; they do what they're programmed to do.

So, if it's not a consistent repeatable process, then you're going to run into challenges. And the whole point of our governance and intake is to make sure that we set up for success.

MR. WEST: Gabrielle, did you want to jump in on that question too?

MS. PERRET: I think, Meikle, that answer was great.

I was going to chime in and say that's a really important part of building a good intake and evaluation process for looking at what you're going to automate is repeatable. And then I think of a lot of agencies too, their programs start to mature, they certainly start to evaluate how many hours are going to be saved by a bot and kind of rank automations in that way too, so you start looking at like what's the effort we put into it and what is the output that we're getting out of it. And I think that's an important thing that can be graded as well.

And not every — like I think Meikle's sentiment, not everything should be automated. So having like a great intake and evaluation process for that, I think that is critical in helping agencies scale from pilot to a handful of bots up to 100. GSA just said I think we're at 104 bots. James Gregory, our director of RPA, that's his great work.

MR. WEST: So, Meikle, intelligent automation is distinguished from robotic process automation. Intelligent automation basically is trying to add some things on top of the robotic automation, which would include AI, machine learning, or natural language processing. So, is there much of this taking place in the Federal Government these days?

MR. PASCHAL: Yeah, so what I'll do is I'll circle back to your question earlier about like how do you instill trust. This is something, this is the path forward, this is the way, right. This is what is

necessary in order for us to make real world impacts and to start to be embedded with operations.

I say this because just like you said, this machine learning and this intelligent automation, this is where we start to see some decisions being made that can help support a user at the end of the process, right. So if instead of having to aggregate — you know, we had people who were spending a lot of days aggregating a lot of information, running multi three or four hour SAS queries to gather as much data and then try to process it and then tell their boss, like at the end of the day, okay, after today's — all this work, let me give you the answer to a question. The bot automates that and can organize the information in a way where a person can quickly derive the information or the answer that — for multiple questions.

We really want to get away from making people do a lot of arduous meticulous tasks and getting back to the critical thinking, right. That's why we're hired, that's why we're here, to solve problems.

And so that point I do want to add because I know everyone is scared that automation is going to take their jobs. I always highlight, automation isn't going to take your job, automation is just connecting the data and the systems in a way that allows us to make better decisions at the end of the day. A lot of these systems are processing the same type of information. These automations are just making sure that it's done consistently so that you don't have to spend hours trying to solve a problem that might have been something that was typed in wrong.

So, what we try to do is fold in that redundancy in that — and just making sure that the automation is making your life easier and that the information is being handled appropriately and responsibly.

MR. WEST: Yeah, that definitely makes a lot of sense.

So, Gabrielle, I know you're still in the process of collecting data for your upcoming report, but are you seeing much use of intelligent automation in federal agencies?

MS. PERRET: Yeah, we are starting. It's definitely up from last year's report. We had just over 30 percent of the RPA programs who responded to our maturity survey tell us that they had incorporated some sort of intelligent automation technology into their RPA programs. And that's to

include machine learning, chat box, AI, natural language processing or image recognition. So, I predict next year we're going to see these — you know, as programs naturally mature and as folks scale from smaller programs to 100 bots, more than 100, I think we'll start seeing folks look at these other intelligent automation technologies and we're going to see a bump in those next year.

MR. WEST: So, we have a question from Pedro, who is a lecturer at the University of Leeds in England. He wants to know will digitization impact supervisory architecture. And I think what means is if we start introducing bots, AI, automated tools, how's it going to affect the relationship between the supervisor and the employee. Will there be a new regime that comes in, whether it will be new ways or supervisors, to keep track of what is going on? Like what does this whole supervisory architecture look as we start to innovate in the ways each of you have been discussing?

MS. PERRET: I think we'll start to see — I mean for federal employees I think we'll start to see people — you know, folks be able to get results faster and be able to make decisions faster. And I think that will flow up to supervisors being able to deliver program results faster. I think that's always something that struck me about RPA, the technology that is able to speed up something that maybe took weeks before, months before. I mean in particular with these form filling manual processes. You know, imagine if we can speed those up. I think that's what RPA does.

MR. WEST: Meikle?

MR. PASCHAL: So, I want to make sure I don't step over myself when I say this. I don't think —

MR. WEST: That sounds very risky, Meikle, I have to say.

MS. PERRET: (Laughter) Here we go. But we're going to take a chance anyway. What is life if you don't take risk, right.

I don't think it's going to change the relationship between the supervisor and the employee. I think it's going to — first of all that's a great question. I think you've introduced an idea that we're working towards, hopefully within the next year of like a bot supervisor, which is going to see more employees and individuals take on a management function in the sense that they're going to be managing

the use of a cluster or a group of bots and automations and making sure that they still perform their tasks. It gets back to getting back to the critical thinking. The ability to be able to oversee a group of HR bots that follow in your domain saying, okay, has everyone's timecards been processed, have they submitted their request for leave, have they — are their performance awards in. If they're going to be gone for an extended period of time for travel, do we make sure that they're responsibilities are going to be accounted for. Is all that information aggregated in one place? How many times as a supervisor are you looking across 10 different browsers on 2 monitors and trying to consolidate that information. If you have a bot that can aggregate — if you have a series of bots that can aggregate that information in an envelope, now you get to see how an architecture, a supervisory architecture can make sure that all of that information is being generated and tracked so that we can understand, hey, let's say that like, you know, 30 percent of our workforce decided to go on surge capacity and help FEMA in Houston because of a Hurricane. Well, we should expect that to have an impact to our day-to-day operations. So, supervisors need to understand, like what is my workforce doing, where are they. Aggregating that information in one place, can say, okay, we needed to shift our workforce to go and help out another agency, so there's going to be some work that we can't do anymore. And I think that understanding how those bots aggregate that information can better inform us so that we can call audibles, we can be a lot more agile in terms of an agency.

Does that make sense? It's not enough time for me to try to introduce the idea, but it is something very interesting and I think it's going to be the future. And it's going to shape how we start to – – this is why I'm saying bots aren't going to replace us. Like you have intelligent questions like that coming out that show how it's going to change our style of thinking.

MR. WEST: Yeah. No, I think that's a great answer. Clearly, we should expect there to be some changes in the way supervision takes place, but it could work in ways that are beneficial to that relationship as well.

So, Crystal works for DNI in the procurement area. And so, she wants I think an example of how a robotic process application can be used in the acquisitions process or the contracting process to

assist the workforce. Like what would a robotic process automation look like in that area. And then in terms of intelligence automation, how would an AI dimension be incorporated in the acquisitions area or the contracting area?

MS. PERRET: I'll jump in here and plug the Use Case Inventory again. We have 75 acquisition use cases just waiting for you to flip through and see maybe what you can apply to your agency. And also, you know, to connect with the community we have quite a few folks who are running acquisition automations that would be happy to connect with you.

MR. WEST: Okay.

Meikle?

MR. PASCHAL: I couldn't have said that better myself. So, I'm going to say we're seeing the same thing at CIS. And we're definitely trying to follow that same trend.

MR. WEST: Just a follow up on that. It sounds like half of the use cases are in the finance area.

MS. PERRET: That's right.

MR. WEST: So, I'm just curious, what are the types of tasks that are being automated there? What do they look like? How do they operate?

MS. PERRET: Mm-hmm. Yeah, there's quite a few finance bots, whether that's pulling different — connecting information between systems. I know there's a lot of journal voucher transactions that go on. Those are all laid out and described in the Use Case Inventory. So, I think that's a great thing to review through and see what kind of systems other folks are using and see if there's anything that you can take away from your agency. I encourage you to connect with the owners of those automations too to find out more.

MR. WEST: So, Gabriel Mitchell works for the Angel Flight Marketing Services and has a question about the small business angle on this. And I'm going to kind of paraphrase this a little bit, but is this whole automation thing really a large company thing or are there opportunities for small businesses that may have limited capital to invest to actually provide solutions to the Federal Government and to help

on some of these developments?

MR. PASCHAL: I can jump on this one if you like.

So, I'm not saying that anything that we do is the right and only way to do it, because I think that you can handle automation multiple ways. This is what works for our agency right now. When we set out to do automation, I was asked what do you know about RPA and I had no clue. I was like what is RPA? Robotic process automation sounds like a clunky name. We had a bunch of companies come in and we interviewed them during our market research. And what we settled on is that a small 8(a) was going to be our fastest approach to getting the right team and skill set in terms of acquiring —- you know, getting a contract and actually acquiring services. But also, I know that a lot of companies are able to do automation. I think that a lot of times you get a lot more focus directly from a small 8(a) business. A lot of them have like a lot of their senior leadership focusing on the work and engaging with the team. And that provides a lot of relief to me as a program manager because this is something that I'm learning, as well as the rest of the government. And a lot of these guys have partnerships established with these automation companies as well as partners where they're able to leverage industry best practices and bring them in and directly make an impact very quickly. I have seen companies re-brand themselves for RPA just based off of how much they've learned in the past year and they're kind of driving what the innovation is going to be in this.

You know, that said, I'm not saying that a big company can't do it, I just don't know that a big company moves as nimbly and as quickly as a large one. And this is the formula that has worked for us.

MR. WEST: Gabrielle, do you see opportunities for small businesses in this area?

MS. PERRET: Of course. And GSA definitely is the procurement arm of the Federal Government. Support small business. So, I think that's a great avenue to explore, especially with RPA and this emerging growing technology.

MR. WEST: There's another question from Pagna Tenny who wants to know how will federal agencies be reconfigured as a result of RPA or intelligent automation?

MS. PERRET: Meikle, do you want to take that one?

MR. PASCHAL: I don't know that — well, first I think RPA is applicable to every agency, because there's repeatable work being done everywhere. I don't know that that's — I think that's a little TBD at this point, right, to be determined, because we're still realizing what the impact and the value is of automation on the government. I don't know that it's going to form any reorganizations yet because I don't think that it's replacing people's jobs. I think it's a tool to connect systems and what it might do is to start to realign some of the architecture and goals in future budget and fiscal planning for agencies, because shouldn't the money that you're saving with RPA — and just to be clear, we have a dashboard that tracks all of our report — our metrics in terms of dollars saved bots, bots in use, hours saved, productivity. We've had to move it from minutes because we're at days, hundreds of days saved at this point.

But I think it's going to start to impact the functions in terms of what type of systems are impacted, if they're going to be upgraded and if — you know, how are they going to interact with each other and interoperability, rather than looking at which people can be trimmed because of automation.

I just don't — I don't see that as — I don't see that as productive because you're getting rid of future developers, and I don't see it as constructive from a morale perspective. Because these people are still needed. Bots at the end of the day don't make critical decisions, they get you to the point where you can make that decision using their information.

MS. PERRET: That's right. And I think RPA can be a great support to providing a good customer experience for both federal employees and citizens too. So, yeah, I think we can provide faster better services through this technology.

MR. WEST: So, five years from now, what do you think the Federal Government is going to look like? Because it seems to me, we're still relatively early in this automation process that as your reports are indicating, deployment is starting to accelerate pretty rapidly. If you project current trends over a five-year time period, how do you think the Federal Government is going to look, how will federal agencies look? Is it going to be significantly different than what we see today or some incremental

version of the current reality?

MS. PERRET: I think as agencies really fine tune their RPA programs they will perfect them for — I think what substantially the Use Case Inventory is looking inward at internal agency processes. I think as RPA programs mature and perfect how their programs are run, how their intake, how they develop bots, it will naturally turn to how can we provide — you know, maybe RPA could speed up a process for citizens, like we've seen here with Meikle or Department of State where federal agencies start looking at their outward processes. And I think that will be a big win for providing a good customer experience for citizens when they interact with the government. If you can get something done really quickly, I mean I imagine that will be wonderful.

MR. WEST: Meikle, your thoughts on what the Federal Government will look five years from now if we project current trends and show the acceleration that we're seeing.

MR. PASCHAL: So, my first thought is that it's going to be at the presidential debates given how — but I say that in jest, but there is a lot of data processing to help people. I'll throw out some examples like education in terms of student loan forgiveness and just all this information that has to be processed and can't possibly be fathomed unless there's some new solution to help process that.

So, I think from a macro scale at the Federal Government, the ability to look at problems and say, okay, this stuff can actually be automated. I mean the — your taxes are already processed in a way where that information is organized and processed just similar to kind of how our intake is. So, I don't see why problems can't be viewed at a macro scale and starting to aggregate, you know, what type of information does CIS have that they share with the Department of State, how can this information be organized so that, you know, people aren't being left out when they're trying to make critical decisions.

Additionally, from like an executive branch level, I think what Gabrielle is doing right now in terms of the federal Community of Practice, they've done an excellent job in terms of organizing all of the use cases, the inventory, the practices, and the styles that people have set up their programs. I think we're going to start to see more standardized practices. There's going to be more integration with intake of ideas so that we're not worried about who's submitting those ideas, we just know that there is a

mechanism to get them.

Right now, people are trying to figure out what automation looks like and how it fits in their household. What we're going to see is they're going to optimize it and there are going to be tools to get it in faster, a lot more clean. And it's going to be a topic of discussion because at some point, you're going to realize, like this is part of the culture. It has to stay, and it has to be implemented. So, security, it's our job right now to lay the foundation so that security doesn't have concerns. And that's why there's the federal Community of Practice, there's also just engaging with brother and sister agencies I've worked with — FEMA, ICE, DHS headquarters — to make sure that we're sharing our automations, we're sharing our code, our practices. We give out that information for free. Like you guys want it, absolutely. Like we're here to help. And help us out. Because if other people see you doing it well, then that makes us look better and it makes us have a point of reference to say, listen, this is how our community is doing it and with, you know, all of DHS, if they're in sync with it, then imagine how DHS and DoD and DoJ, everyone is going to start sharing information amongst each other.

Data sharing is already a thing in the government. Being able to automate it so that it's done consistently and now we have more security controls over it, I think that's going to help to make sure that we don't have a lot of rogue actors going and just running off with our information, if it's done through automation.

MR. WEST: So, my last question for each of you concerns lessons learned. So, each of you clearly are on the front lines of innovation in our federal agencies and there have obviously been some successes today. What advice do you have to colleagues in other federal agencies, what are the lessons you've learned, what would you recommend to people in other departments who may be interested in doing more in this area?

MS. PERRET: I would recommend first starting with folks in your own agency who have RPA programs, find out what they've done, what hurdles that they've already jumped, their lessons learned, you know. And then from there figure out where you're going. And certainly, in the community we have terrific subject matter experts, top federal experts who are willing to give you their time and help

identify where you might have challenges and give you ideas on how to overcome those and be there when you have things that come up, need an answer need a friend.

We have 1,200 folks in our community who are passionate about helping to spread the technology and support other feds across the government.

MR. WEST: Meikle, your thoughts on lessons learned?

MR. PASCHAL: First and foremost, be honest. As the right questions and be honest when you're asking them because it's like a mirror, you know. The questions that you ask will determine the answers that you receive. A lot of people try to boast, you know. Oh, we've got this and that and our program is so robust. And then you find out that there are a lot more challenges when you start digging in. And those are opportunities where they could have received help. Nobody is — it doesn't benefit me to have a program that has more automations than another agency. It benefits me to be able to learn from your lessons and to be able to share what I've learned.

Because it was a hard journey. It does take a little bit of time. And I think that inhibits a lot of people or prohibits them from even starting the journey because they're scared of the security challenges. Well, say it. Ask for help. We're here to help.

And also, just make sure that you build something that's sustainable that when you leave, or let's say, I don't know, everyone has to work from home for a year, it's not going to fall apart because that is a real-life challenge. Life does happen. So, make it so that someone else can get the baton handed off to them if you're not there. And I think that that, just making it sustainable, making it attainable in a way that everybody has access to it, and then driving value for it so that we're not just doing this for nothing. All that capability will translate into a program that's going to be successful and be able to stand on its own two lets.

MR. WEST: Well, Gabrielle and Meikle, thank you very much for sharing your insights. Great thoughts both on what you are doing now and lessons for other agencies that would like to do more in this area. And I certainly recommend the various research reports that have come out of the Federal Community of Practice. Lots of useful information and examples of how RPA already is being used.

And for those who would like to read my paper about robotic process automation, you can find that online at Brookings.edu.

So, with that, thank you very much for joining us.

MS. PERRET: Thank you, Darrell. Thank you, Meikle.

MR. PASCHAL: Thank you.

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I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

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