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***OPTIMISTIC OUTLOOK* PODCAST | EPISODE TRANSCRIPT**

"AI in Healthcare and Manufacturing: Why Adoption Is the Real Problem"

Featuring:
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Description: AI adoption, not innovation, is the real barrier to progress in healthcare and manufacturing. Siemens' Brittany Ng and Rad AI's Demetri Giannikopoulos share what they told the U.S. Senate about deploying AI where it matters most.

In radiology, AI is reducing missed diagnoses, extending specialist expertise to underserved hospitals, and giving physicians more time with patients. In shipyards and factories, industrial AI is automating complex processes, cutting downtime, improving quality, and strengthening domestic manufacturing capacity.

But the real AI adoption challenges aren't technical. They're about data access, governance, workforce readiness, trust, and making sure smaller hospitals and manufacturers aren't left behind.

What you'll learn:

- What Siemens and Rad AI told the U.S. Senate about real-world AI deployment
- How AI in radiology is reducing missed diagnoses and extending specialist care
- How industrial AI is transforming manufacturing and shipbuilding
- Why AI adoption challenges come down to data access, governance, and trust
- What responsible AI deployment looks like for smaller organizations

Conversation:

I think in many ways healthcare can serve as the template of adoption for AI.

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Industrial AI is reducing time spent on manual or repetitive tasks. It actually frees up engineers and shop floor folks to focus on craftsmanship and problem solving, and it's sort of elevating the human side of work that's needed.

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Hello, I'm Lauren Espin. Today on The Optimistic Outlook, we explore how artificial intelligence is moving beyond the hype cycle and into the real world, helping doctors deliver better care, strengthening American manufacturing, and transforming how critical work gets done across hospitals, shipyards, and factories. Our guests are Brittany Ng of Siemens Digital Industries Software and Demetri Giannikopoulos, Chief Innovation Officer at Rad AI. Though they work in very different industries, both recently brought the same message to the US Senate. The future of AI isn't about replacing people, it's about empowering them. In healthcare, Demetri shows how AI is helping radiologists reduce misdiagnoses, expand access to specialist expertise, and spend more time focused on patience instead of paperwork, Brittany explains how industrial AI is being applied in manufacturing and shipbuilding to automate complex processes, improve quality, reduce downtime, and strengthen domestic production capacity in industries critical to America's future. Together they discuss the biggest challenge facing AI adoption today, and it's not innovation, it's trust, readiness, and the ability to responsibly deploy these technologies at scale. And now let's listen to Brittany and Demetri.

2:00

Demetri, good morning. It's great to see you here again. It's been a few weeks since the Senate hearing, so here is what I know. You have been at the forefront of applying AI in some of the most high-stakes environments, and one thing that really stood out to me was your Senate testimony. You made a powerful statement that the most dangerous failure in healthcare isn't a machine failure, it's missed or delayed diagnosis that really resonates, especially when we think about complex systems, whether it's healthcare or industrial environments, where the consequences of missing the right signal at the right time can be very significant. It also highlights where AI has the potential to do something fundamentally different, not just automate but actually augment human decision making, especially in critical moments. So, I'd love to start there. Can you walk listeners through why AI is uniquely positioned to reduce that risk,

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so Brittany, it's great to see you again, and you know, really enjoyed the Senate hearing. It was an incredible opportunity to, you know, assist our nation as we're working through this incredible workforce transformation, you know, with the embracing of AI. So, you know, what happens, and the potential and the opportunity of AI is to augment the clinicians in healthcare, in particular. You know, this is an area where the amount of information that's coming at the individuals that are, you know, working with patients, oftentimes having one of the worst days of their lives, is just overwhelming. So, you know, new research, new studies, new protocols, new workflows, all these parts and pieces are, you know, come to them all the time, and being able to cut through that noise can be incredibly difficult, and you know, frankly, it's it's only getting more complicated if you look at, you know, items like wearables, that's just putting more data into the hands of those, you know, clinicians trying to make complicated decisions, and an example would be misdiagnoses. They

happen for a number of reasons, fragmented collection of information, different patient encounters covering different specialties, all those different parts and pieces. And how do you put all of that together? And that's where AI can really step in and start helping with not just like you know tailored care pathways like you know you should go here you should see that but like truly precision saying this is Demetri's experience you know for example I had a multiple sclerosis diagnosis that took about 10 years to get to across you know, a number of different health systems, and you know, it wasn't for lack of any individual physician or anything like that. It was just, you know, I, I had a car accident, I had some numbness, and things like that. So, you know, it kind of gets chalked up to all these different scenarios. So, when I look at AI, in particular in healthcare, it's, it's that ability. To take just the incredible amounts of data that we have, both, you know, in the experience level and the knowledge level, pull all of it together and ultimately help connect that patient with the best information and best pathway available for them,

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so both of our companies support customers operating environment in environments where safety, reliability, and precision aren't optional, right? So AI solutions need to be purpose-built and leverage secure and controlled data sets. My question is, what's the biggest misconception that people still have about the potential for AI to be applied in healthcare?

5:41

So, particularly in healthcare, it's the always adapting piece, like they, you know, feel like these things are constantly learning, and, and they do, like, there is, you know, data, and that's aggregated and leveraged to train and enhance the models, but particularly because of that risk profile in healthcare, where ultimately a patient's at the end of the decision, and you know patient outcome is at the end of the decision. You need a bit of a bit of more rigor and a bit of more standardization, so you know these algorithms are collecting data, they're updating, but they're doing it on regular cadences, typically instead of happening ad hoc, because you don't want to have that variability in decision making, and you know a key part of that is building trust. You have to build, you know, trust with the clinicians, you need to build trust with the patients that these technologies are being used to, you know, help them, and you know, not hinder their, you know, journey through that health system, so at Rad AI, for example, you know what we do is we work with radiologists, and you know, we help synthesize their findings section, that's, you know, really important, because they put a, they put a lot of information down, it's very important to have all that information there, but ultimately the care team is most interested in what's most actionable, what's most relevant, and we take that cognitive load off the radiologist, because they've already said everything, and you know, help synthesize that down in the very bottom third of the report, and you know, we use AI to do that, but you know, it's not a model that's constantly changing, because you know, the radiologist doesn't necessarily want things constantly changing, but it is again learning and adapting at regular cadences, and you know, pulling in trusted information in different sources like that,

7:41

so Demetri, you just kind of touched on this, but to expand a little bit, you know, there's some complexity involved in deploying AI in healthcare or in shipbuilding, which is my industry. A new LLM, also known as a large language model, can have millions of new users overnight. Manufacturer or hospital needs to proceed much more cautiously, and that has can create adoption gaps. So, my question is, What are you seeing in healthcare that might be slowing things down?

8:14

In healthcare, there's a lot of excitement, that's that's part of the thing, like I think in many ways healthcare can serve as the template of adoption for AI. It's literally been adopted for a decade. I'm not exaggerating, going back to the earliest days of what we would define as the modern era of artificial intelligence. In radiology, as an example, that synthesis that I was talking about preceded large language models, it does a lot of what a large language model does, and we did it back in 2019 at Rad AI, so that was three to four years ahead of the rest of the world in that type of adoption, but again, patients are at the end of the decision, you know, patients are directly integrated into this, so the clinicians need to be feel supported, you know. First, there's a little bit of talk about replacement, and you know, radiology has been one of those specialties where it says we can just get rid of them, and that's not the case at all. I emphasize that, you know, in my testimony, but the way that it's all ultimately integrated into the workflow for the clinician is what enables them to trust what they're getting out of those large language models of that artificial intelligence, and one way that we've tackled that, as an example, is to integrate the Radiological Society of North America, RSNA. They're the largest radiology society in the United States, and they have this incredible knowledge base that previously has only been available for like research access. It was a lot of research papers and things like that. They are now taking that and they're making it into like clinical protocol driven, so like information not just from a research perspective but. Out the specific diagnosis with new information for the radiologist to say this is what an aneurysm of this type looks like, and they can see it as they're going through, and we use AI to surface that to the radiologist. We use AI to then populate it into the report with the right recommendation, with the right information, so that now the radiologist feels supported by AI, you know, as they're going through this, they're very much in the driver's seat, they're making the decision, and then the ordering physician and the patient that ultimately will get that information will have a citation back to the trusted data source, so it's, you know, building trust and engagement and workflow that really ultimately results in the outcomes,

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so let's talk a little bit more about data. In the hearing, Senator Budd raised the importance of expanding access to high-quality data to unlock AI's full potential in the real world. We were pleased to see Senator Budd recently co-introduce a bipartisan bill to advance this priority in healthcare. Specifically, how could quality data meaningfully expand what AI can do?

11:11

Yeah, I was very excited by, you know, Senator Bud and Senator Kim, you know, controducing that bill, and you know, when you look at it, there's there's data sets, and you know, data is, of course, extraordinarily useful when you're developing, and you know, most importantly, when I look at the text of that bill, and it was relatively short, so I'd suggest folks read it, you know, when I look at the text of the bill, it's about building a robust data library that's not just the siloed data, because so much of what developers use for development of these AI solutions in healthcare is a bit siloed, like you're just pulling from one system or one site, the government, and these types of open data accesses that leverage government-related data, it's the patient's data across multiple sites, across, you know, multiple institutions, of course, de-identified, like there is, you know, no privacy concerns about that. That was actually a discussion within the hearing, was how we can, you know, de-identify those in a safe way, but it's that long term, they call it longitudinal information that's inside there, that's really powerful, because if you want to catch a cancer three five years before it forms, having access to information three to five years before it formed in your training data set will actually let you develop towards that without having to do real world experimentation and analysis to try and find something like that, and I'd say the other really key aspect of it, I'm, I'm big on governance, I'm big on assessment of artificial intelligence to make sure that you know it's actually having the impact, positive impact that we all expect it to have in use, and having these, you know, large scale data sets also gives us an opportunity to validate the performance of the algorithm in an agnostic way, so like we get to go and develop it, and then leveraging this, you know, larger data set, we get to go and verify that it actually performs the way that we expected it to, not just in the lab, and not just testing out at one or two sites, but at a large scale,

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you so rural hospitals face some of the same structural challenges as small and midsize manufacturers. Surprisingly, a couple of those challenges are fewer resources, fewer specialists, and oftentimes limited technical capacity. What have you learned about extending the benefits of AI equitably to these settings?

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So, that is rural hospitals, in particular, rural settings are one of the greatest opportunities for impact of artificial intelligence, because, frankly, it's hard to recruit physicians, doctors to those hospitals, many times, you know, they're not in major cities, and some people love it, but you know, generally it's it's a challenge to pull folks out there, so you know, if you're pulling a new physician out to the area, or maybe somebody that you know doesn't have quite as many colleagues and isn't as up to date on all the most recent information, AI can elevate their level of practice to some degree by sharing, hey, here's all these new research insights that the major academic medical center, two and a half hours down the road, recently had, and integrate with their workflow, and again share that with them, and you know, when you look at the rural systems, in particular, taking radiology as an example, they're oftentimes covered by radiology practices. They don't directly

employ the radiologists inside the hospital, partly because of that scale. So, they'll have a group, and many of those groups have been the earliest adopters of AI, going back, I mentioned. A decade ago, because you know they've been feeling this workflows, workflow crisis, workflow inundation, you know, for that time, so they adopted it early, and it's already shown a lot of outcomes in those environments, because of that enhanced detection rates, you know, being able to get patients matched with the right provider, really importantly, potentially being able to identify that they should be transferred to a higher acuity setting. It's a more complex procedure than what the rural hospital can handle, so quickly identifying that that patient's having something like stroke, and getting them into a stroke center where they can do one of those newer interventional procedures, and ultimately, you know, help cure them, you know, as part of the, as part of the process.

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I heard a lot of major themes that you, you know, in your answers, so trust, governance, reliability, and finally, you know, speed to be able to drive that impact,

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do Brittany. So, I think I get to ask you some questions now, too. So, you know, one of the areas, you know, during the hearing that struck me is how similar the challenges feel across the industries. You know, I was there representing healthcare, obviously. You know, as the maritime representative with shipbuilding, you were there, CEO of a robotics company. You know, in healthcare, we deal with, you know, very complex safety and coordination focused use cases. Shipbuilding, I believe, you know, faces some of the same pressure, and you emphasized during the testimony that the United States does need AI as an abstract capability. We need it deployed in those shipyards, in the factories where Americans are working on these. So, what gives you confidence that industrial AI can truly strengthen domestic ship building capacity,

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so I think about it in three ways. The first is that we finally have what I call the digital backbone, so shipyards are actively adopting digital twins, product lifecycle management, also known as PLM, and connected production systems, which means that AI now has this structured contextual data to work with. It's not just fragmented spreadsheets. The second is that we've seen proven gains in adjacent industries, so aerospace and automotive have already been using industrial AI. Maybe I need to add healthcare to that list as well, to your point, to improve throughput quality and rework reduction. Shipbuilding actually has an opportunity to leapfrog by applying those lessons from adjacent industries, and the third is that we're focused specifically on bottlenecks, not on theory. So, AI is already helping to optimize planning and sequencing and supply chain visibility, which are the exact constraints that are limiting shipbuilding capacity today.

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So I think we, we both spoke about some gaps, you know, between AI capability and real-world deployment. I focused on healthcare, you know, looking at the, you know same adoption challenges and manufacturing what needs to change to you know scale industrial AI more broadly

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like to say we got to figure out how to walk and chew gum at the same time so we need to break down data silos across life cycle phases what this means is design engineering manufacturing and sustainment data, it has to be connected, and AI is truly only as powerful as the continuity of that of that thread. At the same time, we need standardization and interoperability, so shipyard suppliers and government stakeholders, they need common data standards and able to enable that AI across the entire ecosystem, and last but not least, and I truly believe it's the most important, is it's a cultural shift. We need trust, as you also mentioned, and adoption on the shop floor. Success depends on empowering engineers and trades people with AI tools that augment their expertise, not that's focused on disrupting how they work,

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thinking that you asked me earlier about the new bill that Sanders, but in Kim recently introduced, and you mentioned trust just a second ago, so with industrial AI relying on trusted machine engineering data inside the factory and shipyard, you know, area. What does that look like with tools like digital twins? You know, how does access to, you know, this large scale operational data change what AI can deliver inside these industrial environments?

19:56

Sure, it moves AI from theoretical to. Actionable, so instead of just sort of generic insights, AI can recommend specific design changes, production adjustments, or maintenance actions in real time. It also enables what I call closed loop learning, so what happens on the shop floor feeds back into design and planning, which is continuously improving future builds, and the last is that context is everything, right? So, operational data, it gives AI an understanding of constraints like materials and workforce and sequencing, which is critical in complex builds like shifts,

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you So I know in healthcare we're facing some critical workforce shortages. There's numbers prognosticating some significant challenges coming in the next few decades. I've heard similar challenges exist also on the engineering and industrial side, looking specifically at manufacturing high level. We in healthcare do not have a job displacement problem. Frankly, we have a capacity problem and a shortage problem. How does that work in the industrial AI area? And how can it act as a workforce multiplier?

21:22

It's a great question, and I could go on and on about this, but I think if I had to prioritize maybe the top two things, the first would be that AI, industrial AI, is reducing time spent on manual or repetitive tasks, so by automating planning and documentation and analysis, it actually frees up engineers and shop floor folks to focus on craftsmanship and problem solving, and it's sort of elevating the human side of work that's needed. The other really critical thing is that an industrial AI improves first-time quality, so by guiding decisions and managing risk upfront, AI is actually reducing rework, so that same workforce can deliver more output while minimizing burnout.

22:10

So, you know, beyond productivity, burnout absolutely an issue, but you know, how can we look at AI on ways that it could unlock entirely new ways of designing, building, operating. Where are you seeing industrial AI create innovation that you know might be unexpected, like where it wasn't previously possible?

22:33

So I feel like I'm exposed to and learning about new applications, you know, every every week it feels like, but to answer the question, I would say, first, I've been really interested in generative design for manufacturability, so that means AI isn't just designing parts, it's actually optimizing how they'll actually build in a shipyard environment, and it does all of this in a simulated environment up front before you actually execute on anything, which I think is fascinating. I would say another example is dynamic production simulation, so being able to do real time what if scenarios that allow shipyards to replan instantly when disruptions do occur, something that really wasn't feasible before. And then lastly, I would say AI-driven work package optimization, so instead of planning work in static sequences like it's done today, AI can dynamically group tasks based on workforce availability, material readiness, and physical constraints in the yard, which unlocks productivity gains that really weren't visible or, you know, actionable. Previously,

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I look at the simulation environment in particular, and you know I'm excited by that, because you want to forecast as much of this as possible, not just from again an efficiency perspective, but from a safety perspective. Understanding what it looks like, you know, when it's implemented is a great opportunity. I've worked on a shipyard, and they're very dynamic, you know, having a better idea. And then there's also the, you know, forecasting side, where something inevitably changes, you know, supplies arrive delayed, or, you know, delayed, or, you know, something changes along the way, and you kind of have to change the plan for the entire day, so you know, being able to simulate those at 8o'clock in the morning versus, you know, when you're at 1o'clock in the afternoon and exhausted is a great opportunity.

24:32

Love that you use the word dynamic, I think that describes the shipyard environment perfectly, do How can AI unlock unexpected innovation in healthcare, and tell us too about your optimistic outlook for the future amid all the noise around AI. What gives you confidence? Evidence that we're moving in the right direction.

25:03

I've already seen it. It's, it's begun to develop, you know, specifically in radiology, there, the early adoption of, you know, computer vision algorithms a decade ago resulted in enhanced diagnosis, literally in some situations increase in the identification of something in those images by up to 50% you know, some like literally one out of two positive findings, which gives you a great opportunity to adapt how you care for these patients. Now, again, I've mentioned that there's overwhelming data, overwhelming, you know, inputs coming to the physicians, so you know we need, we need to use AI to look at this data and identify what's happening at scale, and how can we potentially change the treatment paradigms. We don't have five to 10 years for research to catch up in a lot of these situations, so you know now we can do research at whole new levels, and say, within like two years, we have the data we need to actually change treatment protocols to change the direction that pathway should go, you know. In a real-life example of this, my wife was diagnosed with cancer about a year and a half ago, and she, you know, it was, it was a little delayed, but you know, ultimately she got to the diagnosis she was looking for, and 10 years ago that cancer diagnosis, frankly, would not have had a positive outcome. The treatment pathways didn't exist in quite the same way, and it was really not a great scenario to be in now, because research has advanced at such a level, they actually are there using she has a type of ovarian cancer, responds really well to the same medication used to treat breast cancer, and you know that was able to be identified through aggregation of large amounts of data, and you know, testing AI can just supercharge that, AI can make it so that we can find those new treatment pathways quickly, test them at scale, simulate them, just like in a shipyard, you know, to make sure that they're having the expected outcomes, and then, you know, result in, you know, literally people surviving in situations where they wouldn't have in the past, and one thing I emphasize in the hearing, as you know, uniquely in healthcare, every single one of us will either be a patient or a caregiver, or both, so you know this touches everybody, and I'm very excited about where it's going.

27:28

Amazing. Just to kind of recap some of the things that I heard you say, is that we've got all the right ingredients right now, we've got data, the technology, we've got sort of the urgent motivation, and positive feedback loop of seeing the impact of all of these things, and that really what might be different this time is that it's all coming together in a way that can actually scale. So, Demetri, I want to thank you for your time. Thank you for just your authentic leadership, you and the Rad AI team for everything that you're doing and leading in this space, we appreciate it and appreciate your time.

28:05

Brittany, it was a pleasure.

28:09

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