Mike Adams

CEO of Osmose

“

I firmly believe that sensor technology will eventually evolve to become so sophisticated and affordable that such comprehensive, granular monitoring will indeed be feasible. This is the future of truly efficient and targeted service.

Osmose®

Photo: Everything Lovely Photography

Alan Ross: Welcome to DistribuTech 2025! We are thrilled to host a Q&A session with Mike Adams, CEO of Osmose, who will share his insights on the evolving landscape of the utility industry, particularly concerning transmission and distribution.

Mike, thank you for joining us today. You've had a distinguished career in the power industry. Could you tell us about your journey into this specific sector and why you chose to be here?

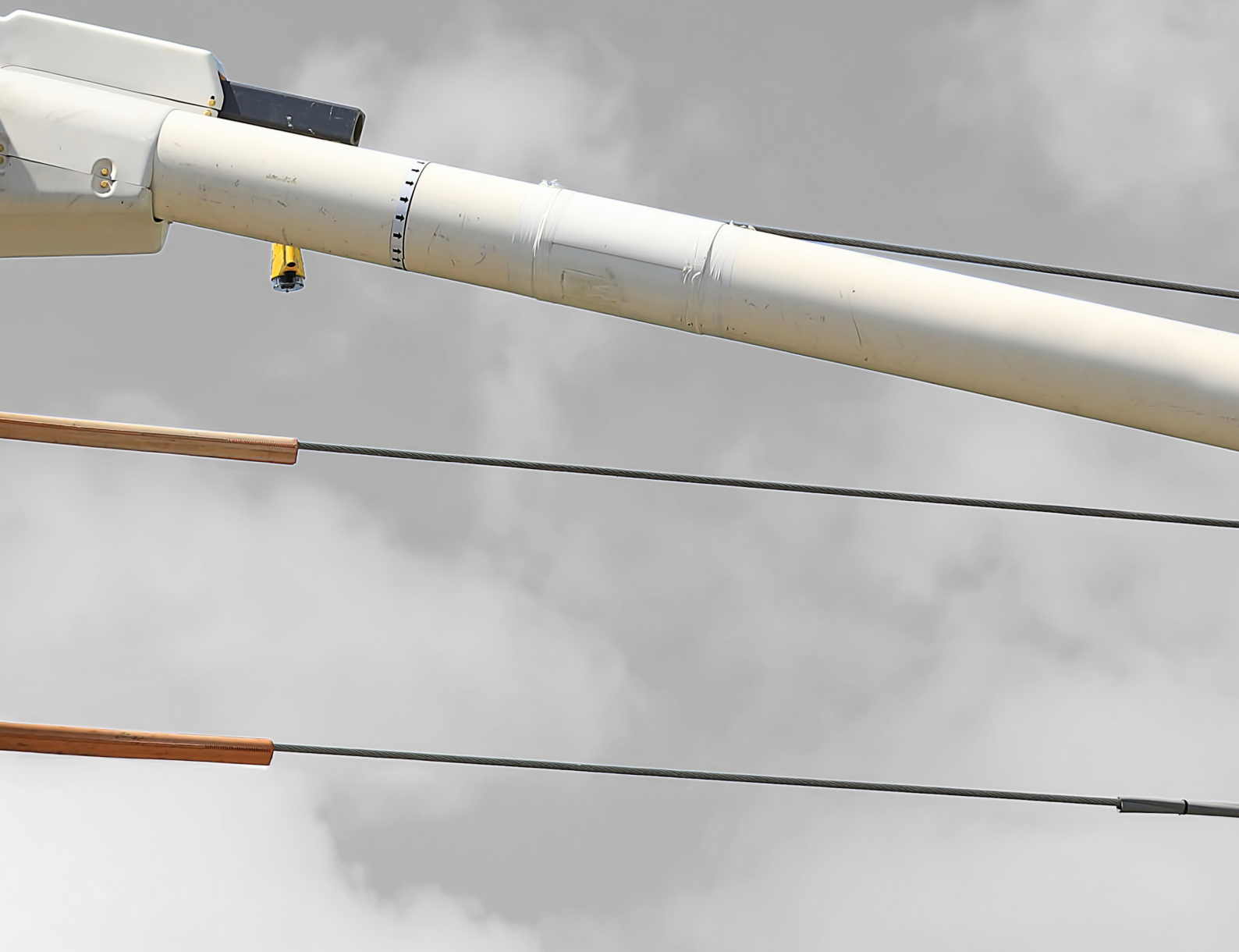
Mike Adams: It's a pleasure to be here. My background is actually rooted deeply in power generation. I began my career back in 1989 with GE as a gas turbine field service engineer, and for 31 years, I was immersed in that sector. My career path also included a period with Alstom Power, and then I returned to GE when they acquired Alstom in 2015, eventually retiring from GE in 2020. I've now been with Osmose for three years. While I consider myself primarily a power generation professional, I'm still actively

Photo: Shutterstock

learning the intricacies of the Transmission and Distribution (T&D) space, even after three years.

What truly excites me about being in this industry now, particularly on the T&D side, is the observable shift in investment. Historically, a significant portion of capital was directed towards power generation, which, in hindsight, meant the grid was likely underserved and underinvested, potentially leading to its current state of health being somewhat behind where it ideally needs to be. It's a privilege to be playing a role in addressing this critical area now, contributing to the necessary improvements and modernization of the grid.

Alan That's a fascinating perspective, especially given the evolution of power generation itself, is increasingly "at the grid edge," focusing on wind and solar. You then brought up nuclear power. Can you elaborate on your views regarding nuclear energy?



Mike Absolutely. It's important to acknowledge that while wind and solar are crucial, we shouldn't overlook nuclear power, which is also carbon-free. I am a strong proponent of nuclear energy, despite the fact that building traditional nuclear power plants can be a lengthy process. However, with the emergence of new modular designs, there's significant potential.

Alan While it faced initial complaints regarding cost overruns, it has proven to be an invaluable asset. The immense data center growth in North Atlanta—an area second only to Northern Virginia in scale—would simply not be feasible without the power supplied by that new plant.

We believe Plant Vogtle will stand as a significant and positive legacy for the state of Georgia, and I commend Southern Company and individuals like Tim Eccles of the Georgia Public Service Commission who championed it, even when it was unpopular. This really highlights the critical, long-term strategic importance of diverse, carbon-free baseload generation like nuclear.

Focusing on change, you've witnessed significant shifts from the Power Generation side to the current heavy emphasis on the T&D, particularly the distribution side. Could you discuss some of the most impactful changes you've observed in distribution over the past five to ten years?

Mike I'd be happy to, and if you don't mind, I'll actually go back even further, to the beginning of my career, because I believe it offers a very interesting perspective on the evolution of services in general. When I started with GE in 1989, the concept of a "service business" as we know it today barely existed; we primarily performed warranty work. From there, we evolved into a transactional services business, then moved to contractual services, and subsequently focused on driving productivity. By the time I retired from GE, the focus had shifted entirely to outcome-based services.

What I've learned from this evolution is fundamental: customers don't simply want the service; they want the outcome. They would genuinely prefer that no work is performed at all,

Photo: Shutterstock

and that you simply confirm their equipment is sound, avoiding any outages. The pathway to achieving this ideal outcome is unequivocally data. I recall from my gas turbine days that after disassembling a machine for service, we'd often find that about 30% of it was perfectly fine, a fact we couldn't ascertain before disassembly. If we had possessed the capability to derive that insight from data, our service could have been far more efficient and precisely targeted.

This brings me to what I see as the most significant evolution: the integration of data, artificial intelligence (AI), and advanced analytics. These technologies have the power to supplement, and in many cases optimize, the traditional "wrench turning" work, whether it's in power generation or on the T&D side. This transformative potential is precisely why I remain actively engaged and passionate about my work today.

Alan That transition to data is powerful. It really resonates with the maintenance and reliability world, where we've moved from time-based maintenance, which often led to breaking things unnecessarily, especially with electrical breakers. Now, the focus is on condition-based maintenance, relying on sensors and data. However, utilities often tell us they don't just need more data; they need the decisions that come from it, and they struggle with interoperability between proprietary products. From a leader's perspective, how do you address this challenge of data volume versus actionable insights and interoperability?

Mike You've effectively answered your own question by highlighting the desire for outcomes. When I speak of outcome-based service, I am referring precisely to this: what people truly want are the insights derived from the data, not merely the raw data itself. I believe that every industry, not just the utility sector, grapples with the challenge of having potentially too much data, or data that is poorly sorted or organized. The fundamental question becomes: how do you extract the actionable outcome that clearly tells you what needs to be done? That's the ultimate goal we're all striving for. To address this, we've taken proactive steps. For example, we recently announced a partnership with Nira, an Australian company. Nira has developed a digital twin asset management health system that can take the vast amounts of data we collect and make it significantly more intelligible and actionable for utilities. This partnership represents an important area of exploration for us. While we certainly don't claim to possess all the answers, we are confident that the solution lies in effectively sorting data and transforming it into actionable insights. That is our guiding objective.

Consider our core business of inspecting wood poles. If we could develop the capability to precisely identify which pole is most likely to require work—perhaps based on factors like prevailing wind conditions, specific soil conditions, or rainfall, or even detect something as granular as damage from a woodpecker through pole-mounted sensors—the implications would be profound. Imagine if we could confidently skip over 10 poles and focus our efforts on just one that truly needs attention. This targeted approach would enable us to provide a much more affordable service to consumers in terms of electricity costs down the road and simultaneously allow utilities to buy down their risk in a far more efficient manner.

I don't want to overstate our current capabilities in this precise scenario, but this is undeniably the direction we are moving towards. Instead of routinely dispatching trucks 100,000 times a year, only to discover that, like my gas turbine analogy, 30% of those "truck rolls" were unnecessary because the equipment was in good condition, we aim for precision. A wood pole is a relatively simple, benign piece of equipment, so placing sensors on it might seem ambitious. However, I firmly believe that sensor technology will eventually evolve to become so sophisticated and affordable that such comprehensive, granular monitoring will indeed be feasible. This is the future of truly efficient and targeted service.

Alan You've really touched on the future, highlighting that it's going to be outcome-based, where customers simply want the job done, not necessarily the details of how. This brings up another point: the utility industry has a "me too" mentality. They often follow solutions proven by others and tend to stick with large, trusted companies. This can stifle innovation from smaller, nimble companies that might have great ideas but struggle to gain market trust. How do you see this dynamic—the need for proven outcomes versus embracing new technology—shaping the future of the industry?

Mike I largely agree with your assessment. There's a prevailing desire to be among the first adopters of new technology, but only if it's already a proven success. This "first above second" mentality, while understandable from a risk perspective, doesn't always foster true innovation. Genuine innovation often requires experimentation and a willingness to encounter failures while trying new approaches. This is where smaller companies frequently face challenges, as they typically lack the extensive investment power of their larger counterparts.

However, smaller companies possess a distinct advantage: nimbleness. Having spent the majority of my career with large corporations, I can attest to the greater agility that smaller organizations often exhibit. Regardless of company size, I fundamentally believe that data can act as an incredibly effective guide to more efficient service delivery across almost any domain.

At Osmose, we have an enormous volume of data. Consider that there are approximately 160 million wood poles in the United States. We estimate that throughout our history, we have inspected more than 19 million of these poles. Currently, we visit about 8 million poles annually, and during each visit, we collect a substantial amount of information—typically 18 to 20 distinct data points. This constitutes an immense dataset. While we are still in the early stages of fully leveraging this data to our maximum advantage, we are continuously improving our capabilities.

We perform some of this data analysis internally, but we also actively collaborate with third-party companies to enhance our efficiency. We recognize that a company of our scale may not possess all the answers internally, so it's often more beneficial to partner with smaller, more agile technology companies that are at the cutting edge of relevant technological advancements. We maintain a very open and collaborative approach to such partnerships.

Alan Osmose is widely recognized and trusted in the industry for its work. How does Osmose leverage this credibility, perhaps by integrating solutions from others? And as the leader, where do you see Osmose heading, and what's your vision for its future?

Mike You're right, Osmose is primarily known as a wood pole inspection company. However, we view ourselves more broadly as a services company focused on asset life extension. Our core value proposition to our customers is helping them extract the maximum possible life from their critical assets.

Let me illustrate this with a wood pole. If a wood pole is properly maintained, it can realistically last up to 100 years. In contrast, if no maintenance is performed, wood decay will likely cause it to reach its end of life around 40 years. The optimal approach is preventative: for instance, when a wood pole is about 10 years old, it may still appear new, but by then, the preservative at the ground line has likely deteriorated, and some decay might be beginning. At this point, the correct action is to arrest that decay and reapply the preservative.

Performing this maintenance effectively can extend the pole's life for another 40 to 50 years, ensuring its continued integrity. Even around the 50-year mark, when further decay or reduced strength might occur, we can install a metal truss adjacent to the pole, which can add an additional 40 years of life or more, pushing the asset's total lifespan close to or beyond the 100-year mark when proper care is taken. This constitutes the majority of our business.

However, we have three other significant lines of business:

1. Steel Transmission Towers and Steel Poles: We apply the same life extension philosophy to these assets. As a mechanical engineer, it often surprises me how many people assume steel lasts indefinitely, but like wood, steel corrodes. This presents the same challenges as wood decay. We often find issues when inspecting steel transmission towers, especially around the 50-year mark, such as significant corrosion or structural vulnerabilities caused by environmental factors like a river eroding a bank or even a farmer accidentally impacting a tower.

   We have encountered towers standing on only three legs. At such a stage, a full tower replacement is not always necessary. We offer solutions that can restore and life-extend these critical assets. This includes using ground LiDAR to create digital twins of towers, redesigning their structural integrity, and applying new protective coatings. This allows us to life-extend entire lines of towers at a fraction of the cost—typically around 20% of the cost of replacing a full line of towers. Our value proposition for transmission assets, primarily steel but sometimes wood, is identical to that for wood poles.

2. Underground Segment: We believe a significant portion of the grid will increasingly move underground. Our acquisition of Imcorp last year was specifically aimed at enhancing our capabilities in this area, also with a focus on life extension. We perform a very high-quality, what we call "factory-aid test," on underground cables utilizing a proprietary PDA (Partial Discharge Analysis) technique. This advanced analysis allows us to accurately predict the remaining life of an underground cable installation. Our focus remains on the structural integrity of the grid - whether it's the poles supporting the overhead lines, the towers supporting transmission, or ensuring the underground

Photo: Shutterstock

installations remain robust. When issues are identified, we also offer quick repair solutions.

3. Technical Services: This line of business encompasses an engineering backroom team coupled with a field team. They specialize in areas such as pole loading analysis, distribution engineering, and infrared inspection. We provide services to both the telecom and electric utility industries, advising customers on system loads and potential issues.

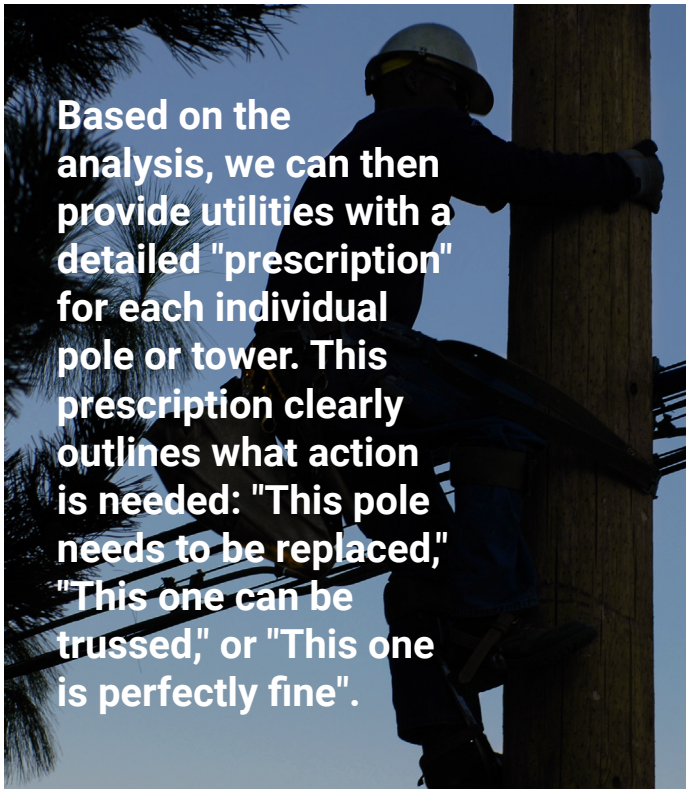
   A recent acquisition of a distribution engineering company last year was strategic because we recognize that the current broadband buildout is a major driver for our technical services business. Looking ahead, we foresee a critical need for the grid to be fundamentally redesigned as society moves towards greater electrification. With the anticipated surge in electric vehicles and the shift towards electric home heating away from gas, the grid infrastructure will need to be capable of carrying two to three times more electricity. We are committed to being a trusted partner for our customers as they navigate this transformative period.

Ultimately, our goal is to remain highly relevant to the industry. While we are fortunate to have a trusted name, maintaining that trust requires continuous relevance, impeccable execution, and consistently delivering high-quality work. My primary responsibility is to define the right strategic direction and ensure the company operates effectively to achieve these goals.

Alan That's a comprehensive overview. Let's talk about resilience. We're seeing unprecedented weather events - hurricanes, wildfires, ice storms. Does Osmose get involved in the assessment post-event, or perhaps even in proactive remediation planning for these types of disasters?

Mike That is an incredibly important question, given the escalating frequency and intensity of weather events. Osmose does indeed participate significantly in the assessment piece after such events. However, it's crucial to clarify our role: we are a services company, not a construction company. Therefore, we do not engage in the physical restoration work, which we categorize as construction.

Our unique contribution lies heavily in the predictive aspect. Leveraging the extensive data we've gathered from prior wood pole and steel tower inspections, we have developed proprietary software. This software allows us to simulate the precise impact that a specific wind speed, for instance, 120 miles per hour, would have at the ground line of an entire line of assets. Based on this analysis, we can then provide utilities with a detailed "prescription" for each individual pole or tower. This prescription clearly outlines what action is needed: "This pole needs to be replaced," "This one can be trussed," or "This one is perfectly fine".



We have conducted numerous resiliency studies with a variety of investor-owned utilities. These studies aren't limited to coastal regions vulnerable to hurricanes; they also encompass inland areas susceptible to straight-line winds, or regions where significant ice loading on lines, combined with straight-line winds, can cause substantial damage. Our approach involves building digital models primarily focused on the proactive side. A truly effective services company continuously strives to deliver value to customers by enabling them to prevent these catalyzing, catastrophic events. That is overwhelmingly where our focus lies.

When unfortunate events do strike, we redirect our workforce to assist with the assessment of the damage that has occurred. However, our involvement does not extend to the physical restoration activities.

Alan Mike, thanks so much, we greatly appreciate your insight and well done at moving Osmose into the new future.