Episode Book

EPISODE #5765

Why You've Never Heard of Schneider Electric

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SYNOPSIS

Schneider Electric equipment is bolted to the wall of nearly every factory, office building, and data center you've ever walked through — and almost nobody outside the electrical trades can name the company. This episode traces the wire from the Square D breaker in a suburban basement all the way up to medium-voltage switchgear, Modicon PLCs, and the automatic transfer switches that keep data centers alive. Along the way: how a 19th-century French steel and armaments maker became an electrification giant, and why embedded infrastructure is so brutally hard to displace once it's in the ground.

TRANSCRIPT



Corn

The name on the breaker panel in your basement. The sticker on the UPS under the desk. The grey cabinet bolted to the wall in the back of a factory that nobody has opened in eleven years.



Herman

You've seen it a hundred times. You've never once read it.



Corn

Which is exactly what Daniel is poking at. He wrote in this week. He says Schneider Electric is one of the biggest names in industrial electrical equipment, and yet outside engineering and industry, it's barely known at all. He keeps running into the Schneider name on everything from pretty basic electrical components up to sophisticated industrial and power-management systems. And he's got two questions. First, what does Schneider Electric actually make, and where does its equipment fit into the electrical infrastructure around us. He wants a tour using real environments — a factory, a commercial building, a data center — showing what the different categories of equipment actually do. Second, why did this company get so enormous and so influential, how did it build that position, and what is it about a manufacturer that makes it so brutally difficult to displace once its equipment, its standards, and its ecosystem are embedded in the infrastructure.



Herman

That's the good version of the question. Not "tell me about Schneider." It's "I keep seeing this name and I can't place it."



Corn

Right. The paradox Daniel's pointing at is a company that is disproportionately important in the electrical and industrial world while being almost invisible to consumers.



Herman

Which is the whole thing. So let's start with the stuff you'd actually recognize, and then follow the wire upward.



Corn

Before we walk through the factory, the building, and the data center, let's get the scale of this thing straight. Schneider was founded in 1836.



Herman

Eighteen thirty-six. As Schneider and Company. Schneider-Creusot, named for the town.



Corn

By two brothers, Eugène and Adolphe Schneider. And it was not an electrical company.



Herman

Not remotely. Iron foundry, steel, heavy machinery, armaments. Le Creusot, in Burgundy. For most of its first century and a half, this is a French industrial heavyweight in the same category as Krupp. Steel and guns.



Corn

So the company that makes the breaker in your basement started out casting cannon barrels.



Herman

Cannon barrels, locomotive parts, armor plate. And then in the nineteen eighties and nineties it does something unusual. It divests the steel business. It divests shipbuilding. And it starts buying up the electrical industry, brand by brand, for four decades. Then in 1999 it renames itself Schneider Electric to make the pivot legible to the market.



Corn

That's the whole story in one move. A steel company that decided the future was electrons.



Herman

Bigger than that, honestly. Revenue for 2025 was forty point one five billion euros. Operating income six point six nine billion. Net income four point three five billion. About a hundred and seventy-seven thousand employees. Headquartered in Rueil-Malmaison, just outside Paris. Listed on Euronext Paris, a CAC 40 component, Euro Stoxx 50.



Corn

And their own description of what they do — this is their language — is "leading the convergence of electrification, automation, and digital intelligence into what we define as energy technology."



Herman

That word is doing work. Energy technology. They use it instead of "electrical equipment" because the equipment is only half of it now.



Corn

The other half being the software on top.



Herman

The software on top, and the sensor data underneath the software, and the systems that decide when to move power and where.



Corn

Now the thing that makes Schneider hard to hold in your head as a single company. It isn't one thing. It's a portfolio of acquired brands, each of which owns a slice of the electrical chain, and most of them kept their names.



Herman

Which is why you can walk into your own house and find two Schneider products that have never been introduced to each other. Square D panel in the basement. APC UPS under the home office desk. Same parent company.



Corn

And the homeowner has no idea. That's the invisibility Daniel's talking about, in its purest form.



Herman

Schneider organizes itself around six end-markets. Data centers, industries, buildings, homes, power and grid, and infrastructure. We're going to walk three of them concretely.



Corn

Okay. Let's start with the box in your basement and follow the wire upward.



Herman

Square D. Acquired 1991. And this is the one a North American listener has actually touched, even if they don't know it. The QO and Homeline load centers and circuit breakers. Millions of homes and small commercial buildings.



Corn

Define the load center, because I think people look at that grey box and don't know what they're looking at.



Herman

It's the metal box in the basement or the utility closet. The utility feed comes in and splits into branch circuits. Each branch gets a breaker that protects the wiring downstream. If you've ever flipped a switch in that box after a hair dryer tripped it, you've operated a Square D QO breaker, most likely.



Corn

QO specifically is the default in a huge share of US residential and light commercial work. Not just common. Default.



Herman

It's the thing a spec writer writes without thinking, because it's what they've always written, and it's what the supply house has on the shelf, and it's what the inspector expects.



Corn

And then the other consumer-adjacent brands. Clipsal in Australia, acquired 2004 — switches, sockets, wiring devices. Merten in Germany, 2006. PDL in New Zealand. These are the things that go on walls.



Herman

And APC, 2007, six point one billion dollars. That's the one most people know. The UPS brand from the office server room and the home office.



Corn

Luminous in India — inverters and power backup. Again, the kind of brand that's household-famous in one country and unknown everywhere else.



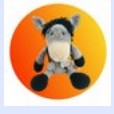
Herman

Now take all of that and scale it up. Because the reason Square D matters is not that the breaker is fancy. It's that it's the bottom rung of a ladder that goes all the way up to the utility feed.



Corn

Walk us up the ladder. Factory first.



Herman

Power comes in at medium voltage. That's the utility's delivery point. It lands in switchgear — Merlin Gerin, Schneider's own name on it.



Corn

And switchgear, I want to be careful here, because "switchgear" is one of those words that means nothing until you see it.



Herman

It's the big metal-clad cabinets. Lineup of them, usually against a wall in an electrical room. Inside are the breakers and disconnects that protect and route the main power. These are the devices that have to interrupt fault currents in the tens of thousands of amps without destroying themselves or the building.



Corn

These are the ones Herman was talking about on the show once — vacuum interrupters, or SF6 gas, extinguishing a twenty-thousand-amp arc.



Herman

Same principle, different scale in a factory versus a substation, but yes. And at the medium-voltage level the equipment's job is: take the utility feed, break it safely, and pass it downstream.



Corn

Then it steps down.



Herman

Transformers drop it to the utilisation voltage — four hundred eighty volts in a US plant, four hundred in Europe. Then it distributes through MasterPacT air circuit breakers and panelboards. MasterPacT is the big air circuit breaker family for main distribution. That's the device between the transformer and the whole plant's downstream loads.



Corn

So you've got a hierarchy now. Utility feed, medium-voltage switchgear, transformer, main breaker, panelboards, branch circuits. Every layer is a Schneider box if you're in a Schneider plant.



Herman

And then you get to the machinery. Modicon PLCs.



Corn

Say what a PLC is, because it's load-bearing for the rest of this.



Herman

Programmable logic controller. It's the industrial computer that runs the machine. It reads inputs from sensors — is the part in position, is the temperature in range, is the door closed — and drives outputs — start the motor, open the valve, fire the actuator. It's the thing in the control cabinet that a factory's whole operation hangs on.



Corn

And Modicon is historically significant how?



Herman

Modicon is one of the pioneers of the PLC category itself. The first programmable controller is a Modicon product — the thing was built in 1968 for General Motors, to replace relay logic in car plants. So when Schneider bought Modicon in 1997, it wasn't buying a product line. It was buying a chunk of the origin story of industrial automation.



Corn

Then the physical layer that actually moves things.



Herman

Telemecanique, acquired 1988. Contactors, motor starters, sensors, drives. Contactors are the heavy-duty relays that switch motor power. Motor starters are the combination of contactor plus overload protection that lets you start a motor without cooking it. Drives are variable-frequency drives — they let you run a motor at a speed other than fixed line speed, which is most of how a modern plant saves energy.



Corn

And the process side, for the plants that are making chemicals or food or pharmaceuticals rather than assembling parts.



Herman

Foxboro, which came in through the Invensys acquisition in 2014. Process control and emergency shutdown. That's the layer where the system isn't just running a machine, it's holding a reactor at a setpoint and shutting everything down safely if it drifts.



Corn

Then software ties it together.



Herman

AVEVA, and EcoStruxure. EcoStruxure is Schneider's own platform. It's how the energy data from the meters, the status from the breakers, and the runtime from the PLCs all get reported up into one place. So the plant manager can see, in one screen, what the plant is drawing and what it's producing.



Corn

And that's a factory. Now do a commercial building.



Herman

Different shape, same ladder. Square D or Merlin Gerin panelboards and breakers distribute the power. That's the electrical room on the ground floor or the basement. From there, Merten or Clipsal switches and sockets in the offices.



Corn

The wall hardware.



Herman

And then building automation — TAC, acquired 2003 — controlling HVAC and lighting. Because the biggest energy consumers in a commercial building are usually not the computers, they're the air conditioning and the lights. And EcoStruxure Building sits on top managing the energy.



Corn

So the building's nervous system. Sensors and controls across HVAC and lighting, reporting up into the same software stack that the factory uses.



Herman

Same platform, different vertical. That's a real part of why this company is so sticky. The building manager and the plant engineer are using the same underlying software.



Corn

Okay. Data center. And I want to go slow here, because this is where Daniel's question gets sharpest. Everything Schneider is doing right now is bending around this environment.



Herman

It is. Follow the power. Utility feed lands in switchgear, same as the factory. Then it goes to the UPS — and this is the APC layer. The UPS is the battery-backed power conditioning that keeps the racks alive during the gap between the grid dropping and the generator



Herman (continued)

coming up. That gap is not instantaneous. It's seconds. And seconds are enough to crash everything.



Corn

Then how does the generator actually get online in that gap?



Herman

ASCO, acquired 2017. Automatic transfer switches. The ATS is the device that senses the grid is gone and switches the load from the utility feed to the generator feed. It's the physical changeover. In a data center, the ATS is one of the most consequential single components in the building. If it doesn't transfer, the generator is just a very expensive piece of parked machinery.



Corn

On the rack side, though, the UPS output isn't going straight to servers.



Herman

Right, it goes through PDUs and busway. Power distribution units, which are the rack-level distribution. Busway is the overhead or underfloor distribution system — instead of pulling individual cables everywhere, you run a busway down the row with tap-off boxes you can move as racks change. And then rack PDUs at the cabinet itself.



Corn

And now the part that's actually interesting. AI racks.



Herman

This is where Schneider's own white paper gets blunt about it. They published this in 2023, and the argument was that existing data centers aren't buff enough for AI. That's their framing, not mine.



Corn

What do they actually say is needed?



Herman

Two-forty, four-fifteen volt distribution. PDUs above sixty amps. Racks that average around two tons at forty-eight U. And liquid cooling above twenty kilowatts per rack.



Corn

Two tons. Per rack.



Herman

A rack is a cabinet of servers. Traditional enterprise racks run maybe five to ten kilowatts and weigh a few hundred kilos. AI racks can run fifty, a hundred kilowatts and weigh more than a car.



Corn

So the floor loading, the cooling, the power distribution — everything in the building changes.



Herman

And that's why Schneider bought Motivair in October 2024. About eight hundred fifty million dollars. Motivair does liquid cooling and advanced thermal management. And then in December 2024, they announced a partnership with Nvidia to co-design data center cooling systems for AI workloads.



Corn

So the actual AI infrastructure supply chain, not just a peripheral vendor.



Herman

Directly in it. And it's not just the cooling. It's the switchgear, the UPS, the busway, the transfer switches, the monitoring software. Every layer of a data center has a Schneider product in it, and the AI transition means every layer gets redesigned.



Corn

Which is both an opportunity and an exposure for them.



Herman

It's the most interesting moment in the company's modern history, honestly.



Corn

Close the loop for us on the software and grid side, so the tour is complete.



Herman

Here's roughly what else is in the portfolio. Areva T&D, 2010, with Alstom — transmission and distribution, grid automation, smart grid. That's the utility-side layer. AVEVA, majority in 2017, fully acquired January 2023 for about eleven billion dollars — industrial engineering and operations software for the whole plant. OSIsoft, 2020, the PI System, which is industrial time-series data; it's how plants store and query all of their process data. ETAP, 2020, electrical power systems simulation, so you can model your own electrical system before you change it. And then a cluster of smaller companies — AutoGrid, EnergySage, EV Connect, Zeigo — doing distributed energy, the solar marketplace, EV charging, and power purchase agreements.



Corn

That's the whole chain. Breaker in the basement. Switchgear in the factory. UPS in the data center. Software to run it all. And grid automation on top.



Herman

Utility substation down to the wall socket. That's the claim, and it's roughly true.



Corn

So that's what Schneider makes and where it sits. The harder question is why it's so hard to get rid of once it's there.



Herman

Which is the actual question Daniel's asking second. Why is this company so durable.



Corn

And I want to push on the framing before we get into mechanism. Because there's a version of this story that sounds like Schneider won on superior engineering. And I don't think that's the right story.



Herman

It isn't. On raw performance, Schneider is roughly at parity with ABB, Siemens, Eaton, and a handful of others. Big competent industrial companies that all make breakers and switchgear that meet the same UL listings and the same IEEE standards.



Corn

Then why isn't it a commodity? Buyers should just pick the cheapest option that meets spec, and this whole story falls apart.



Herman

That's the misconception to bust, and the answer is switching costs. But let's start with how the position was actually built, because the durability was purchased, not earned gradually.



Corn

Forty years of acquisition.



Herman

Telemecanique 1988. Square D 1991. Merlin Gerin 1992. Modicon 1997. APC 2007. Areva T&D 2010. Invensys with Foxboro 2014. ASCO 2017. AVEVA 2017 through 2023. OSIsoft 2020. ETAP 2020. Motivair 2024.



Corn

Read that list as a who's-who of electrical brands and then realize it's the same company.



Herman

That's the point. None of those brands were invented by Schneider. They all existed independently, and each of them was the incumbent in its own niche. The roll-up is the strategy.



Corn

So it's not a company that bet on one technology and won. It's a company that bought every position of strength in the electrical industry, one at a time, over four decades.



Herman

And then connected them. Which is the thing Siemens and ABB were also doing, but Schneider did it with more brands and a cleaner segmentation story.



Corn

Okay. Now the mechanism. Why is embedded electrical equipment so sticky.



Herman

Six factors, and they compound. Standards and code, installed base, software ecosystem, familiarity and training, risk aversion, and regulatory burden.



Corn

Start with code.



Herman

Breakers, panelboards, and switchgear are UL-listed and code-driven. A Square D QO panel accepts Square D QO breakers. You can't mix brands. Once a building is wired with a given panel family, every future circuit addition, every renovation, every repair buys that same brand.



Corn

Even the small parts.



Herman

Handle ties — the little metal bars that mechanically connect two breakers so they trip together — are brand-specific. Square D's handle tie for QO is a specific part number. You can't substitute.



Corn

So the panel itself is a lock-in, and every part downstream of it is another lock-in.



Herman

Then the installed base compounds. Every panel, breaker, and PLC that gets installed creates decades of aftermarket demand for replacements, spares, and expansions. The original panel sale is a one-time event. The aftermarket is a perpetual annuity, and the manufacturer owns it.



Corn

Razor and blades, but the blades last thirty years and cost more than the razor.



Herman

Roughly. And every new circuit addition is a new blade.



Corn

Software ecosystem is the third one, and I think this is the biggest recent shift.



Herman

It's the one that changed the shape of the moat. Modern Schneider gear is tied together by EcoStruxure, AVEVA, and the data center software — DCIM for infrastructure management, EPMS for electrical power management. Once a plant's automation, energy management, and data flows all run on Schneider software, switching vendors means re-engineering the whole stack, not swapping a box.



Corn

Because the software isn't a separate purchase. It's the layer that makes the equipment legible to the operator.



Herman

The equipment still works without the software. But nobody runs it without the software, because the software is what tells you what everything is doing.



Corn

Fourth — training and familiarity.



Herman

Electricians, integrators, and engineers are trained on specific platforms. A spec writer defaults to what they know and trust. That's a human-capital moat, not a technical one. It doesn't show up on a datasheet, and it's more durable than any patent.



Corn

If every electrician in a metro area has been pulling Square D QO their whole career, then a competitor's superior breaker is interesting but irrelevant.



Herman

The switching cost isn't just the part. It's the years of muscle memory in the workforce.



Corn

Fifth. Risk aversion.



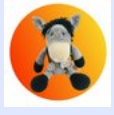
Herman

In critical infrastructure — data centers, hospitals, grids — downtime is catastrophic. Buyers overwhelmingly choose the proven incumbent over the unproven cheaper alternative. And the asymmetry is enormous. Saving ten percent on a breaker is nothing compared to one hour of downtime.



Corn

Ten percent of a breaker is a rounding error against a production stoppage.



Herman

On a data center outage, one hour can be more than the whole annual breaker budget. So the decision isn't "which is cheaper." It's "which one am I confident works."



Corn

And the sixth. Regulatory and safety burden.



Herman

Arc-flash assessments, load analyses, code compliance. All of these make substitution slow and expensive, because any change means re-documenting and re-certifying. And Schneider's own white paper on data centers emphasises arc-flash risk at higher voltages — which is not just a technical point. It's a reason buyers stay with the vendor whose documentation and training they already have, because the paperwork already exists.



Corn

So the moat isn't one wall. It's six walls. And they're all pointing inward.



Herman

They reinforce each other. Code lock-in makes the installed base sticky. The installed base makes the aftermarket sticky. The software ties them together. The trained workforce defaults to the incumbent. The risk-averse buyer won't switch. And the regulatory burden means switching is a project, not a purchase.



Corn

That's what makes "picking the cheapest breaker" not a real option. Even in a category you'd think was a commodity.



Herman

And on top of all of that, Schneider is riding three of the biggest capital-spending trends of this decade.



Corn

Electrification, AI buildout, decarbonisation.



Herman

Electrification in the sense of everything moving to electricity — vehicles, heating, industrial processes. AI buildout in the sense of data centers and their power and cooling demands. Decarbonisation in the sense of grid modernization and renewable integration. All three of those mean more of exactly the equipment Schneider sells.



Corn

And they're not standing still on the positioning side either.



Herman

They announced more than seven hundred million dollars of US investment through 2027. Their largest-ever US capital expenditure program, aimed squarely at serving energy and AI demand. And on the sustainability side, they were named number one on Corporate Knights' 2025 Global 100 index of the world's most sustainable companies.



Corn

That ranking is worth noting more for what it signals than for what it is. A century-and-a-half-old industrial company positioning itself as a sustainability leader is a very deliberate repositioning.



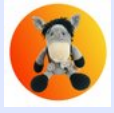
Herman

It sets them up for every ESG-driven procurement process that's now standard in a lot of commercial and public sector work.



Corn

And it's not a static story. There's governance drama too.



Herman

There is. Peter Herweck was removed as CEO after eighteen months in November 2024. Olivier Blum took over. Jean-Pascal Tricoire, the long-serving former CEO, is chairman. Abrupt CEO change at a company this size, with this kind of embedded position, is a real



Herman (continued)

signal that the board wanted a different direction.



Corn

So the company is enormously durable, but the leadership layer moved fast. That's worth keeping in mind when you hear "embedded incumbent" as a description.



Herman

Embedded doesn't mean frozen.



Corn

That's the picture. Now hold on. I want to test one thing before we move on.



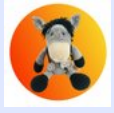
Corn

Everything we just said — code, installed base, software, training, risk aversion, regulation — is real. But I want to know what it feels like in the hands. Because Daniel's second question, at its core, is about what makes something hard to displace. And I don't think any of us has really said what it feels like when you actually try.



Hilbert

You're right, and it's the label inside the door.



Herman

The label inside the door.



Hilbert

Inside the load center door. There's a tiny printed label that lists exactly which breaker types are approved for that panel. Most people never read it, because the door is closed and the panel's covered. But that label is the thing.



Corn

So the spec is physically posted in the enclosure.



Hilbert

It's a piece of paper, but it's backed by the metal. Because the busbar stabs are a specific shape. Square D QO breakers have a particular geometry on the back that seats onto the busbar. A different brand's breaker won't seat. I watched someone try once. Young guy, first plant job, grabbed a breaker off the shelf that didn't match, comes back, tries to push it onto the busbar. Won't go. He pushes harder. Won't go. He checks the box. Wrong brand. Wrong panel family.



Corn

The metal refused.



Hilbert

It's not a legal problem. It's not a code problem. The code adds a layer on top. But the physical layer is where it starts. You cannot put a competitor's breaker in that panel, because the panel was built to accept one shape and the breaker was built to fit one shape.



Corn

The lock-in isn't just paperwork.



Hilbert

It's a stamped piece of copper. It's the shape of the busbar. It's a manufacturing decision made decades ago that shows up every time somebody tries to make a substitution, and there's nothing they can do about it short of ripping the panel out and starting over. Which is, obviously, not what anyone's going to do because a circuit needs a new breaker.



Corn

I want to be blunt about the handle ties too. Because those are the small ones and I think people dismiss them.



Hilbert

Handle ties are brand-specific. Square D QO handle tie for QO breakers. You need two breakers to trip together, and you need the manufacturer's tie, or it doesn't fit, or it fits but doesn't do the job. And the code requires the tie, and the panel door label requires the brand. So you've got the physical constraint and the code constraint agreeing with each other. That's the whole moat, in a stamped piece of copper and a printed label.



Corn

The moat isn't in the contracts.



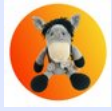
Hilbert

It's engineered into the metal.



Corn

That's the thing. The lock-in is stamped into the metal. Which raises the question of what happens when the metal itself has to change.



Herman

There's a version of that already live. Data centers are moving from AC to DC power. An IEEE Spectrum piece in March of 2026 laid it out. The racks themselves don't care much — they take DC. But the distribution and protection equipment has been designed around



Herman (continued)

AC for a century. If the underlying power architecture actually shifts, the breaker and switchgear requirements shift with it.



Corn

Which is exactly the moment when an embedded incumbent is most exposed and most motivated.



Herman

Both. Because they've got the engineering bench to lead a transition, and they've got the installed base to defend. But you can't defend a busbar shape against a change in what the busbar is carrying.



Corn

Which is the real question Daniel's second prompt leaves you with. Not "is the moat deep." It's "is the moat built out of something that can survive a change in the physics underneath it."



Herman

Sustainability reputation, acquisition machine, embedded standards, trained workforce — all of that. And then the actual power architecture of the building changes, and the moat becomes a liability as much as an asset.



Corn

The one thing from all of this. If you take one thing from this episode, it's that Schneider's position isn't about being a better breaker. It's about being the only breaker that fits in a specific slot that somebody already bolted into a wall.



Herman

That slot has a paperwork trail, a label inside the door, a trained workforce behind it, and a software stack reporting from it. Which is a lot harder to displace than a product.



Corn

That's the point. One more thought before we close.



Herman

Go ahead.



Corn

All of this is real. The lock-in is real, the standard is real, the moat is real. But the moat is built out of metal and code, and both of those can change. Data centers going DC is one example. If a breaker family's shape stops being what the industry wants, if the switchgear requirements move, then the twenty years of muscle memory and installed base and software integration becomes a drag rather than a defence. That's the open question for anybody watching this company for the next ten years.



Herman

An embedded incumbent's biggest asset and its biggest problem are the same thing.



Corn

Which is why we like this one. The structure is the story.



Herman

Thanks to Hilbert Flumingtop, our producer.



Corn

This has been My Weird Prompts. If you liked this one — head to my weird prompts dot com, that's where the archive lives, and the RSS feed is right there if you want to subscribe. Or email us at show at my weird prompts dot com.



Herman

We'll be back soon.



Corn

See you tomorrow.