

The logo for FMI (Facilities Management Institute) is displayed in white text on a dark blue background. The letters 'FMI' are in a bold, serif font, with horizontal lines above and below them.

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Today's Technology Catalysts in the Built Environment

By Andrew Henderson

The E&C industry plays a key role in identifying technology and bringing it to end users through the design and construction of the built environment.

Today's great minds are inventing some of the most advanced technology that improves our lives without us even knowing it. Unfortunately, while these inventors can create amazing technology, they don't always have the means or knowledge to bring those technology solutions to market. Engineering and construction (E&C) firms, in their own forward-thinking way, identify this future technology and facilitate broad market adoption by making it a key building block of the built environment.

In fact, many E&C companies play important roles as facilitators of technology—from the bright minds that invent and manufacture advanced products to the end users who take the technology surrounding them for granted. Consider the room that you're sitting in right now, where there is strong likelihood that:

- High-efficiency LED fixtures are helping light the space more effectively.
- Advanced HVAC control systems are keeping the room temperature comfortable.
- Power is being driven by a utility-scale solar farm (and supported by an on-site battery backup system).
- The list goes on.

Put simply, none of the technology embedded in the built environment would be there had it not been for the E&C firms that identified this best-in-class technology and designed and constructed it within the facilities we use each day.

Having completed over 700 transactions in the E&C space, FMI has seen the industry's role in technology enablement flourish. Each of the 30-plus deals we completed in 2018 held some aspect of technology. As M&A advisors, one of our key roles is to identify the underlying technology skill sets within each of these businesses; understand the target markets most impacted by that technology and skill; and match those companies with the appropriate counterparty that maximizes the impact of these technology-enabling solutions.

When doing a deal, we always talk about synergies and financial benefits to the buyer and seller. One key stakeholder that is commonly ignored is the end user who benefits from the products and services these companies offer. In this article, we highlight how one manufacturer merged into a larger entity in order to stake a bigger claim in the world's solar market.

A Powerful Force in Alternative Energy

When Esdec acquired EcoFasten Solar in 2018, the potential power of this combined duo was immediately obvious. Working with FMI, the manufacturer of watertight solar roof mounts and components was sold to the solar rooftop mounting solutions provider, giving the Netherlands-based acquirer a foothold in the U.S. residential and commercial markets and expanding its reach into new territories.

“FMI spent a significant amount of time fully understanding the unique environment we face in the solar market,” [said Brian Stearns, EcoFasten's founder and president](#). “At the end of the day, this transaction presented and negotiated by FMI sets up a true partnership and growth opportunity for both companies.”

Historically, a European-focused solar racking provider, Esdec successfully launched its U.S. subsidiary in 2018. It combined the EcoFasten Solar line with its other U.S. offerings, including the FlatFix system, a lightweight, clickable solar mounting system for flat commercial and industrial roofs.

“The combination of Esdec and EcoFasten Solar creates a major solar rooftop mounting player with 5 GW installed worldwide,” [Solar Power World](#) noted at the time. EcoFasten Solar's patented, rail-less racking and mounting for multiple roof types have supported over 3 GW of U.S. installations, with the company supplying just under 500 MW in 2018.

Esdec, the Netherlands' largest mounting manufacturer with 1.9 GW of its systems installed across Europe, has seen increasing adoption of its FlatFix commercial flat-roof offering, fueling the company's expansion into the U.S. market, Solar Power World reports.

The Perfect Marriage

The marriage of Esdec and EcoFasten created a major solar rooftop mounting player that provides installers, distributors and the market as a whole with a compelling, diversified product offering for both the residential and commercial markets. Now a full-service rooftop mounting provider with installer friendly, reliable mounting solutions for any type of roof, the combined company is in a much stronger position to serve the \$80 billion-plus worldwide solar market.

This deal highlights a much less discussed but equally important technology within the solar market: solar racking components. The more often discussed technology, solar modules, make up less than half the total price of a fully installed solar system. This provides ample opportunity for advancements in the other components to drive costs down. Key technological building blocks of a successfully integrated solar project, solar racking systems go beyond just simply connecting panels to a roof.

Rooftop solar installations can be mounted onto houses, commercial buildings and structures like garages and sheds. The solar panels are secured in place with specially designed racks, according to structural and safety requirements and all while maximizing power output.

Because their racking systems minimize installation costs, Esdec and EcoFasten also decrease the payback period before residential and commercial solar systems become profitable. This, in turn, makes solar energy accessible to a wider swath of commercial and residential customers.



Making Solar Affordable

With global uncertainty causing significant variability in fossil fuel prices, stable, affordable renewable energy resources are paramount to residential and commercial property owners, not to mention governments worldwide. Solar prices have dropped significantly over the last several decades, and it's now up to solar researchers and manufacturers to make sure that trend continues.

The combination of EcoFasten and Esdec not only made sense for both companies strategically and financially, but also it's beneficial for the broader solar market. By delivering an innovative commercial and residential mounting system to the market—and by offering installers a simpler, quicker to install solution—the company funnels large-scale research and development, patented advanced technology and customer input into its rapid product development, all while continuing to make solar more affordable for a greater number of people.

“Esdec and EcoFasten are a perfect fit,” [said Esdec CEO Stijn Vos](#). “By combining these two customer-oriented forces, we are providing installers, distributors and the market with a very compelling, diversified product offering for both pitched and flat roof projects.”

Creating Big Impacts

Massachusetts Institute of Technology (MIT) researchers identified “research and development activities” as having the biggest impact on solar cost reductions—a point that makes the Esdec-EcoFasten deal even more significant. Along with introducing a market-leading catalog of racking solutions, the two companies are now becoming technological powerhouses in the solar research and development space.

Esdec opened its Innovation Centre in the Netherlands, where its staff works closely with the EcoFasten Solar team to fast-track the research, development and commercialization of new racking and mounting products for the U.S. and European markets. There the two entities contribute to innovation in the solar industry and to improved renewable global energy and sustainability efforts.

Looking ahead, the future remains bright for renewable energy construction in North America as technology and research continue to focus on improving reliability, increasing capacity factors and reducing costs. Along with declining costs, state-driven Renewable Portfolio Standards and corporate sustainability practices are both increasing the demand for renewable energy.

Many large corporations have even pledged to move toward 100% renewable energy. Finally, ongoing energy storage developments will further increase reliability on renewable sources for generations—even during periods when these sources are not available. This will require technology and investment in redesigning the grid to more efficiently use and store generation from renewable sources.

More Innovation to Come

Construction innovation is at an all-time high, with more companies exploring how to use everything from the Internet of Things (IoT) to advanced materials to provide customers with the most effective, cutting-edge technology available. Wind turbines would not be supporting many of the power grids across the country had E&C firms not been there to erect them. Manufacturing plants would be extremely inefficient and lose billions annually had E&C firms not installed advanced sensors and monitoring systems.

Even the streets you drive on would be impassible were it not for the advanced technology ingrained in the chemistry of the asphalt pavement on the roads we drive. And while superintendents on construction sites may not have the latest wearable technology on their vests, they probably do possess the knowledge and skills necessary to support the construction of a technologically advanced office building.

With technology accelerating at a rapid pace, inventors and entrepreneurs must remain aware of their delivery channels to market. Serving as one of these key channels, E&C can't stagnate. It's up to the industry to continue to adopt this new technology within its bill of materials so that each and every one of us can enjoy the benefits within the built environment.



Andrew Henderson is a vice president with FMI Capital Advisors, FMI Corporation's investment banking subsidiary. Andrew is responsible for executing merger and acquisition advisory and capital formation engagements, working with a variety of companies across the engineering and construction space. He can be reached via email at ahenderson@fminet.com.



for the Built Environment

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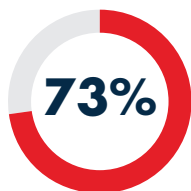
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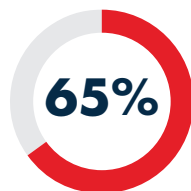
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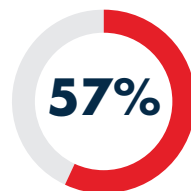
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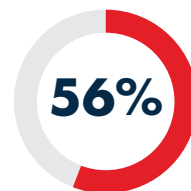
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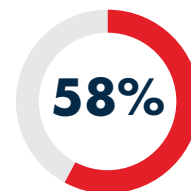
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