

CASE STUDY:

EDP Renewables North America

EDP Renewables North America (EDPR NA), a developer, owner, and operator of 28 wind farms, is the 3rd largest renewable energy company in the United States. Based in Houston, Texas, EDPR NA is committed to enabling a clean energy future for the U.S. The parent company, which operates facilities in Europe and South America, is the third largest wind energy company in the world. Current market trends, including increasing economic efficiency and acceleration of technological developments in renewable energy, support that vision.

CHALLENGE

In the last two decades, wind energy has become a serious contributor to the national energy market. This growth has been fueled in part by rapid improvements in wind turbine technology. Despite these technological advances, competitive market pressures demand that wind energy suppliers pursue innovation throughout their organizations to operate as efficiently and reliably as possible. This relentless focus on performance improvement provides an excellent platform for a Dynamic Case Management approach that links governance to operations to ensure that farms perform optimally while the wind is blowing.

Like most wind energy companies, EDPR NA's assets are in very remote locations dispersed across the United States. Modern technology enables companies to accurately forecast wind speeds and generation potential, but the industry as a whole must still grapple with prioritizing performance issues based on severity and wind patterns, communicating knowledge across a geographically dispersed organization, and the challenge of working around the availability of resources to schedule maintenance – a more dynamic process than what traditional energy generation sources face.

APPROACH

EDPR NA decided that embracing Dynamic Case Management would give it a competitive advantage in overall process management against its industry competitors. To prove the concept, the company initially focused specifically on operations issue management. In using technology as an engagement vehicle to boost asset performance and maximize potential earnings, the company targeted three specific areas:

- Prioritization – Which problems are the most critical to address and solve first?
- Geographic Dispersion & Department Specialization – EDPR NA's distributed assets require that its technical service department assist multiple wind farms from a centralized location
- Knowledge Retention and Learning – given the pace of technological advancement, EDPR NA needed to document maintenance techniques, technical solutions, and best practices.

SOLUTION

To transform the industry-standard approach to case and process management, EDPR NA designed the COBRA (short for "COlaBoRAtion") system using the Appian BPM platform. Appian provides comprehensive process, rules, events and analytics capabilities, combined with native mobility and social business collaboration for fast and intelligent resolution of dynamic case scenarios.

Prioritization

In COBRA, issues encountered in remote sites are logged and assigned a priority for solution creation. COBRA uses real-time data about a problem's size, combined with location-specific pricing information in order to determine the issue's ability to affect the company's bottom line. Through a complex algorithm, issues are assigned a score from 1-1000, which provides an absolute basis for objective comparison. EDPR NA uses this data to make transparent decisions about where to assign resources and focus improvement efforts.



Geographic Dispersion & Department Specialization

Wind turbines are highly complex machines, and problems that affect the fleet can have wide-ranging consequences. COBRA provides a platform for structured collaboration for each issue, allowing departments to weigh in on the ramifications (technical, engineering, wind resource assessment, environmental, safety, procurement, legal, regulatory, and others) of problems, as well as their potential solutions. COBRA also assigns internal resources to each case that serve as a dedicated collaboration contact to assist on-site managers in reaching solutions. The Appian system makes collaboration between locations easy by also serving as a platform to discuss updates and new developments.

Knowledge Retention and Learning

Not only does COBRA assign dedicated resources to serve as a point of contact for each case, but the system centralizes the information generated, creating a constantly-expanding knowledge base of solutions for future problems. This ensures that EDPR NA staff can rapidly respond to similar problems encountered in the future, and prevents the company from having to constantly reinvent the wheel for solution creation.

With COBRA we were able to capture over a hundred million dollars worth of issue solutions in the first nine months of use. It gives us a modern mobile and social platform for Dynamic Case Management that drives business performance by turning tacit knowledge into explicit knowledge.

– Stephan Blasilli, Corporate Development Manager,
EDPR North America

RESULTS

In its first nine months of operation, COBRA captured over a hundred million dollars worth of issue solutions. As importantly, the system has created a searchable knowledge base of detailed solutions for potential future issues, including the original case's context, to aid decision making. COBRA also allows EDPR NA to track the frequency of issues related to specific equipment suppliers. COBRA is rapidly eliminating reliance on email-based issue tracking, collaboration and document sharing: the files in the Appian system were accessed more than 3,000 times in those first nine months.

Since that first application, EDP has deployed nearly two dozen Appian applications, covering energy procurement and new wind farm development, energy transmission to the grid, wind farm insurance policies, multiple compliance requirements, environmental, health & safety, equipment procurement, energy sales, finance, corporate performance improvement, and obligation management. Each application had a rapid deployment time ranging from just one week to a couple of months. More than 20 business areas are involved with the program, including Development, Construction, Operations, Maintenance, Asset Management, Procurement, Energy Sales, Finance, Tax, Legal, Engineering, Health & Safety, IT, Risk, Accounting, and Senior Leadership. EDP's Appian program touches 80% of EDP's North American headcount, from executives to field service personnel. The financial impact is \$200,000 saved per year by creating custom applications instead of purchasing COTS solutions, plus \$200,000 saved per year in increased productivity.

Appian

Appian delivers an enterprise platform for digital transformation that enables organizations to revolutionize their customer experience, optimize their business operations, and master global risk and compliance. Powered by industry leading Business Process Management (BPM) and Case Management

capabilities, Appian's low-code approach can radically accelerate the time it takes to build and deploy powerful, modern applications, on-premises or in the cloud.

For more information, visit www.appian.com