CASE STUDY

EDF Renewable Energy
Delivering the comprehensive, national data required for energy development projects
The challenge

Every well-planned and executed business venture is built on a foundation of accurate data. For energy-related projects, acquiring that data is challenging. There is a wealth of publicly-available data sources, but gathering and bringing that data together in a coherent way is difficult and time-consuming.

Faced with the need to continually acquire data for new projects in locations across North America and use that data for network modelling, EDF RE decided to seek out a ready-made data source.

ABB’s solution

The solution for EDF RE was ABB Ability™ Velocity Suite, a modular, integrated solution that provides investment-grade analytics across energy-related commodities. Velocity Suite aggregates, enhances and analyses publicly-available data and delivers it in ways that make it readily accessible to users.

A developer focused only on a few states might be able to economically develop its own data resources and analyst team. A company like EDF RE that explores opportunities wherever they appear across North America would be constantly recreating its infrastructure, retooling its analytics and rebuilding its team. Instead, with Velocity Suite, they have instant access to data from across the continent.

Velocity Suite enables users to overlay their model data on a collection of geographic information system (GIS) layers. Transmission and generation organizations tend to guard information about the location of their assets. ABB went through the painstaking process of accumulating detailed location information of the transmission and generation network and assets for all North America. That geographical information is critically important to people developing renewable assets.

‘A developer could be considering a site and find it has tremendous potential as a wind or solar farm’, says ABB Energy Portfolio Management Account Manager Ray Hoppe. ‘Our GIS overlay helps them determine the distance to potential grid connection points. Considering the cost of building transmission lines is approximately $1 million per mile, knowing how far they have to run the lines is essential to assessing the ROI on its development project’.

The transmission system data is readily available, but the various data points have different names depending on the source, and the data is formatted in a variety of ways. Velocity Suite not only houses the data, but also coordinates, cleanses and conforms it to create a uniform data set. Users could do the same thing, but it would require considerable effort and expertise. Velocity Suite provides that data on demand and at a lower cost than doing it in-house.

The client

EDF Renewable Energy (EDF RE), a subsidiary of EDF Energies Nouvelles, is a leading United States (US) independent power producer with over 30 years of experience in originating, developing, building and managing power-related projects.

‘Velocity Suite gives us the ability to take our basic data file model results and present them visually on a geographic map, providing an actual picture of the transmission system topology. This functionality is especially useful in unfamiliar regions’.

Justin Radl, P.E.
Commercial Transmission & Analytics Manager
EDF Renewable Energy
‘Another aspect of Velocity Suite is that it provides a huge data repository’, says Radl. ‘If we need to look up specific details on power market operation, historical prices, or other information, Velocity Suite is our go-to resource to verify our modelling results’.

‘The tools in Velocity Suite help developers identify regions or sites with good generation potential, and enables them to assess the costs of their grid connection’, says Greg Toothaker, Velocity Suite product manager. ‘The data on generation potential is only part of the picture. Understanding system constraints and pricing trends helps developers get a more complete picture of potential performance and profits’.

As an added benefit, customers with other ABB Energy Portfolio Management applications can integrate what they have with Velocity Suite analytics for an even clearer picture of markets and opportunities. For example, by feeding market intelligence from Velocity Suite and price forecasts from PROMOD into Portfolio Optimization, users can produce optimal generation & fuel schedules, transaction pricing, and renewable, hydro and distributed resource schedules.

Velocity Suite runs on Microsoft® Azure®, a trusted, robust platform that provides for a lower cost of implementation and rapid time to productivity. With Microsoft’s Power BI™, users can further manipulate data to create custom views and rich interactive reports.

Results

Velocity Suite is a software-as-a-service application. EDF RE opted for the cloud-based version, which made for an especially simple and painless deployment. The solution’s simplicity, combined with the many demonstration and training resources that are available for Velocity Suite, meant that users were almost instantly up to speed.

Like most independent power producers, EDF RE is hesitant to share profitability and other performance metrics, but EDF RE’s heavy reliance on ABB and Velocity Suite is a solid indication that they continue to find value in the data it provides and software features. In fact, most companies engaged in developing renewable energy projects rely on Velocity Suite – that includes 19 of the top 20 US generators and 19 of the top 20 retail providers.

‘ABB extends a lot of effort into ensuring data integrity and completeness.” Radl says. ‘Velocity Suite excels in its ability to visualise power flow results on a geographical map’.

ABB Ability™ Velocity Suite

Velocity Suite enables companies to quickly evaluate the activities of market participants and industry dynamics across commodities using a single integrated solution. It is considered the industry standard for investment-grade energy data and analysis, providing detailed, accurate data that enables users to make sound, fact-based business decisions.

• **EV Fuels**: Extensive coal and natural gas information, updated daily and works in unison to provide you the entire fuels picture.
• **EV Energy Map**: Seamlessly integrates market data that is updated daily with infrastructure derived from aerial imagery and hundreds of geographic data sources used to understand energy markets.
• **EV Power**: Comprehensive data on the electric industry and updates it daily with the latest available information in addition to tracking development of new generation projects.
• **EV Market-Ops**: Robust granular hourly supply and demand data and formats it for use as inputs to most market models.
• **EV Weather**: Reliable, easy way to view energy specific data with the local weather conditions to integrate weather data into your project.
• **FTR Trader**: Critical FTR market data with visualisation, mapping and querying capabilities so users can evaluate its current market position and new market opportunities.
• **EV Grid Map**: Visualise power markets as users import model output at the bus level, locate their exact geospatial location in the power grid, and create contour maps to pinpoint high and low prices in model runs.