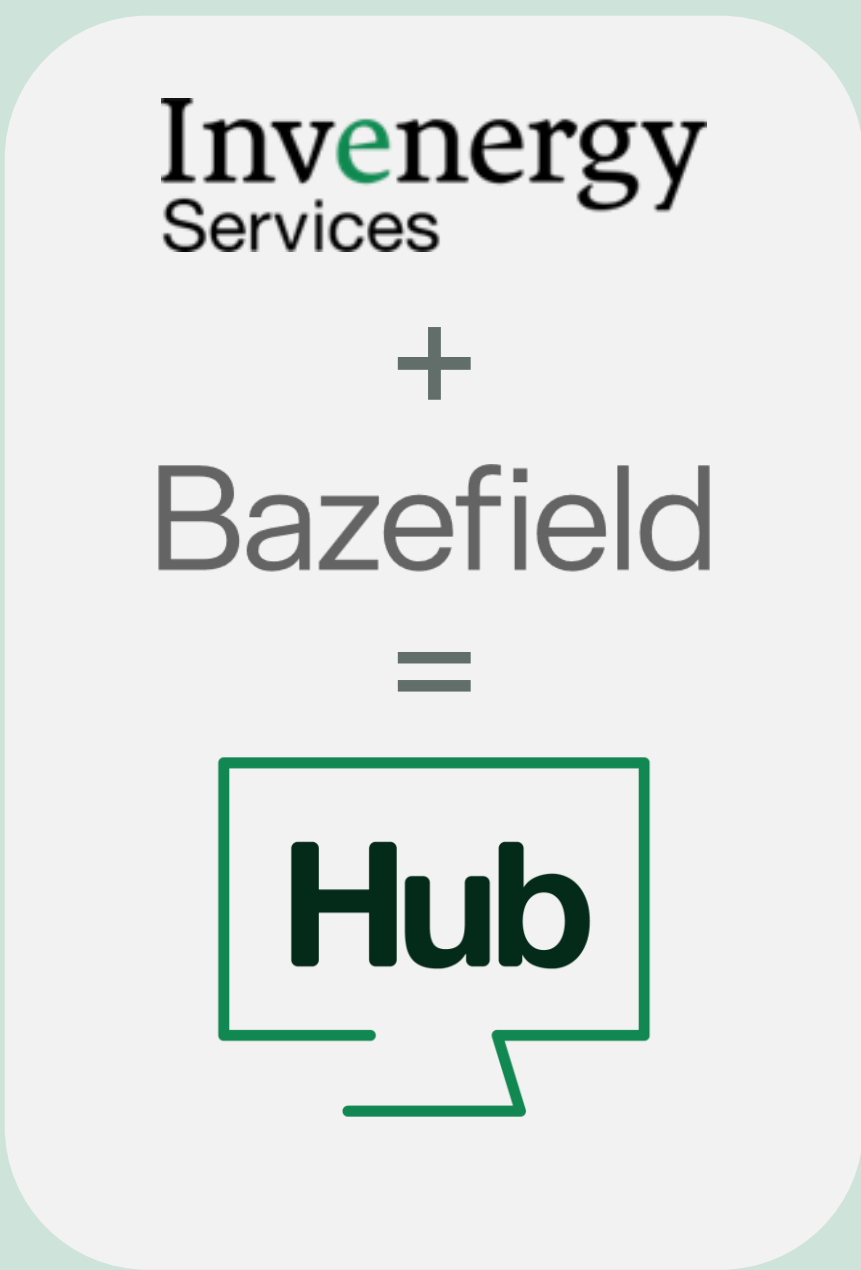
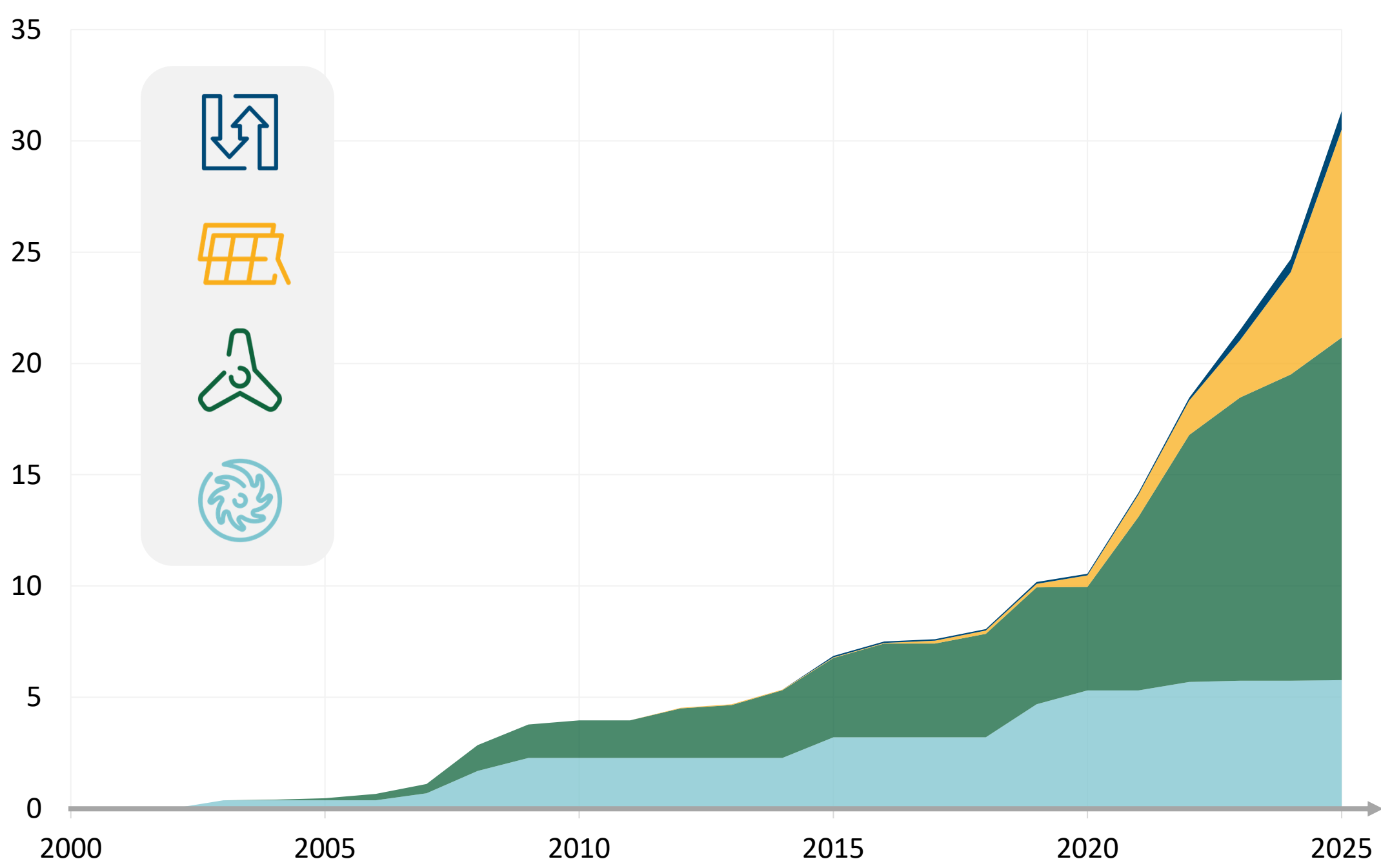


# Scaling Innovation: Invenergy Services’ journey implementing a customized third-party data platform



## The Challenge: Unprecedented portfolio growth



The Invenergy Services portfolio continues to grow in size and complexity. Technological complexity increases as we diversify the technology in our fleet, adding in more solar and storage as well as additional wind manufacturers. Commercial complexity increases as we grow our services with other asset owners. This growth necessitates the need for scalability as we seek to maintain the same level of support and attention across the portfolio.

- Growing Dataset
- Technical Challenges
- Stakeholder Variability

## The Barriers: Technical and cultural

While implementing the platform, we faced challenges, both technical and cultural in nature. We sought to connect sizable datasets across many functional teams, supporting the varying needs of a number of different stakeholders. This section highlights some of the key barriers and how they were addressed.

### Cyber Security

Two key cyber security factors drove the nature of our solution design. First, we wanted to isolate the platform from our control network. To allow for this, we built the platform on top of our existing data historian rather than connecting directly to equipment data sources. Second, we wanted our third-party customers to have access to the platform. This access necessitated a cloud structure rather than on-premise, enabling the capability for separate customer instances only allowing access to their own information.

### Data management

To maximize capabilities of our platform, we are feeding in a large amount of real-time, high-frequency data. As such, special attention was needed for data management to ensure scalability of both real-time and historical analytical use of the platform. To address this challenge, we worked closely with our supplier to develop robust processes and tools for data buffering and backfilling. For example, we have implemented real-time calculated events to flag outages, enabling engineers to promptly address any issues as they arise.

### Need to customize

At Invenergy Services, our standard is to build our tools and analytics in-house. While we opted to leverage a third-party vendor, we still wanted the end result to be a unique, Invenergy-driven solution, customized to align with our current processes. Because of this, there was a significant level of internal effort required throughout the implementation. Additionally, the end result has data collection and some Invenergy proprietary analytics performed outside the platform, requiring internal resources to support on an ongoing basis.

### Stakeholder alignment

The goal of this platform was to overhaul the way our teams interact across the organization. As such, there were a large number of internal stakeholders across engineering, operations, and asset management, each with a unique perspective during the planning process. To ensure alignment across the organization, we assembled a steering committee of key leaders. Through regular meetings, we were able to ensure priorities were clear and if changes were needed, decisions could be made quickly.

## The Result: Data-driven collaboration

- Centralized site and asset view
- Streamlined Reporting, including GADs
- Native and proprietary analytics
- Cross-functional collaboration
- Workflow integration with CMMS



- 7.4k+ Turbine and inverters assets
- 860+ Users internally and externally
- 95+ Distinct project locations

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