

SOLUTION BRIEF

Major North American Truck Manufacturer

Universal Data Access

CUSTOMER

Major North American Truck Manufacturer

DATA CHALLENGE

Siloed engineering data in aging infrastructure

OBJECTIVE

Single open system for engineering data management that scales

SOLUTION

Viviota Time-to-Insight Software Suite deployed on an HPE Moonshot

RESULTS

Data management improvements accelerate product time-to-market

Today, manufacturers need powerful data management solutions to accelerate engineering analysis and innovation. Engineering teams want shared access to comprehensive reliable data and open interfaces to use their existing analysis software. Additionally, engineers need to unlock all their data for analysis to reduce costs and improve product time-to-market.

SUMMARY

As part of an enterprise-wide digital transformation initiative, a major North American truck manufacturer selected Viviota Time-to-Insight™ Software Suite (TTI) for engineering data management and accelerated analysis. TTI provides universal access to comprehensive reliable data for all engineering teams at the manufacturer. TTI offers the scalability the engineers needed to handle even their largest data analysis jobs.

- Universal access to high-quality, validated data from disparate sources
- Better overall data utilization from enterprise resources
- Faster time-to-insight and problem resolution

DATA CHALLENGE – SILOED ENGINEERING DATA IN AGING INFRASTRUCTURE

The truck manufacturer's typical engineering workflow included the analysis of engine test data acquired in several environments. This included data from multiple test cells and in-vehicle test facilities. Data from these test environments vary greatly in file format, have disparate (or missing) metadata and are not interchangeable across engineering groups.

This customer has siloed databases with limited contextual information about the test data, such as configurations of an engine or test vehicle, or the setup of the test cell and the type of test performed. This made it difficult to find, correlate, standardize and share data across engineering teams. Finding test data and related contextual data involved looking up information in disparate databases and directories to understand details about the test and the acquired test data. Consequently, the ability to gather all the required information to perform analysis resulted in hours of preparation time.

The inflexibility of the systems and sheer volume of data made analysis of all the data difficult within time-constraints. The inability to find data easily led to expensive retesting. This slowed down the development process. Time-critical analyses, such as root cause identification for engines deployed in the field, had significant economic impact on the manufacturer.

The customer's digital transformation team discovered that the number of engineering analysis tools in use was increasing the need for data conversion. Team productivity was hurt because data was not standardized, and each tool required unique training. Tribal knowledge was often required to solve specific tasks, and many processes were sparsely documented. These inefficiencies resulted in higher costs and longer product cycle-times than necessary.



MAKING SENSE OF SENSOR DATA

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OBJECTIVE – SINGLE OPEN SYSTEM FOR ENGINEERING DATA MANAGEMENT THAT SCALES

The customer wanted a software platform capable of automating all aspects of their sensor data consumption and sharing. The team required well-documented and validated data for reliable and faster analytics and reporting. Removing manual processes and providing universal access to better quality data would give engineers the freedom to focus on higher value-add activities for product design, prototyping and test, resulting in accelerating product time-to-market.

Viviota worked closely with the R&D management and engineering teams to outline the following goals for their digital transformation data project:

- Automate data management import tasks relieving time-consuming labor-intensive processes
- Increase data quality and usability to reduce expensive retests and engineering design cycles
- Single point-of-access for all engineering data and analytics tools
- Open integration with existing engineering tools and other corporate data systems
- Reduce the number of engineering tools and control systems proliferation
- Ability to handle even the largest analysis workloads

SOLUTION – VIVIOTA TIME-TO-INSIGHT SOFTWARE SUITE DEPLOYED ON AN HPE MOONSHOT

Viviota TTI targeted these areas to meet and exceed the customer's objectives:

1. Automate data ingestion and implement a flexible dynamic metadata schema
2. Provide universal access to sensor data through a single TTI user interface
3. Provide easy integration with existing engineering analysis tools and corporate systems
4. Accelerate analysis at the edge to handle even the largest analysis workloads

TTI provided a complete end-to-end data management and analytics solution. The solution platform included an HPE Moonshot server, a powerful server-class system that will scale for data management, analysis and reporting now and in the future.

TTI offered a better user experience by providing a single point-of-access to engineering data from any data source. The flexible, dynamic metadata schema provided by TTI gives engineers the rich data context needed to access all relevant data and reach reliable conclusions more quickly. It also provided a single interface and ability to run analytics using the current set of engineering tools.

The fundamental processing components of TTI—DataPrep, DataLook and DataCrunch—distribute storage and processing across all available server cartridges to optimize data management, searching and analysis. The same scalability the HPE Moonshot platform affords I/O is also utilized by Viviota's TTI software suite.

Data management improvements accelerate product time-to-market. The digital transformation team estimated the system payback period to be one year and expect continuing savings in the future.



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