

Data Mining with JMP – Product Performance and Customer Behavior

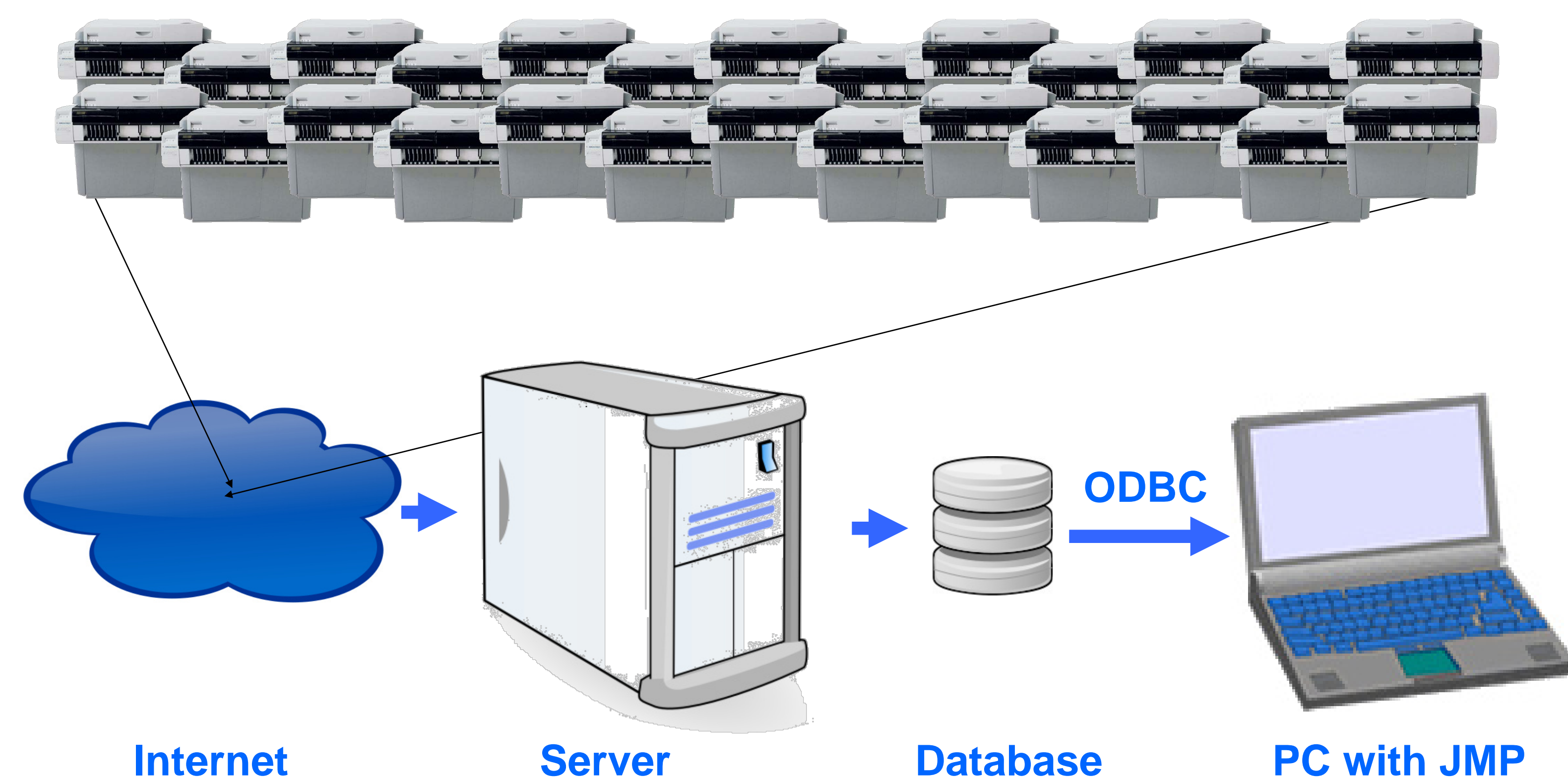
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Abstract

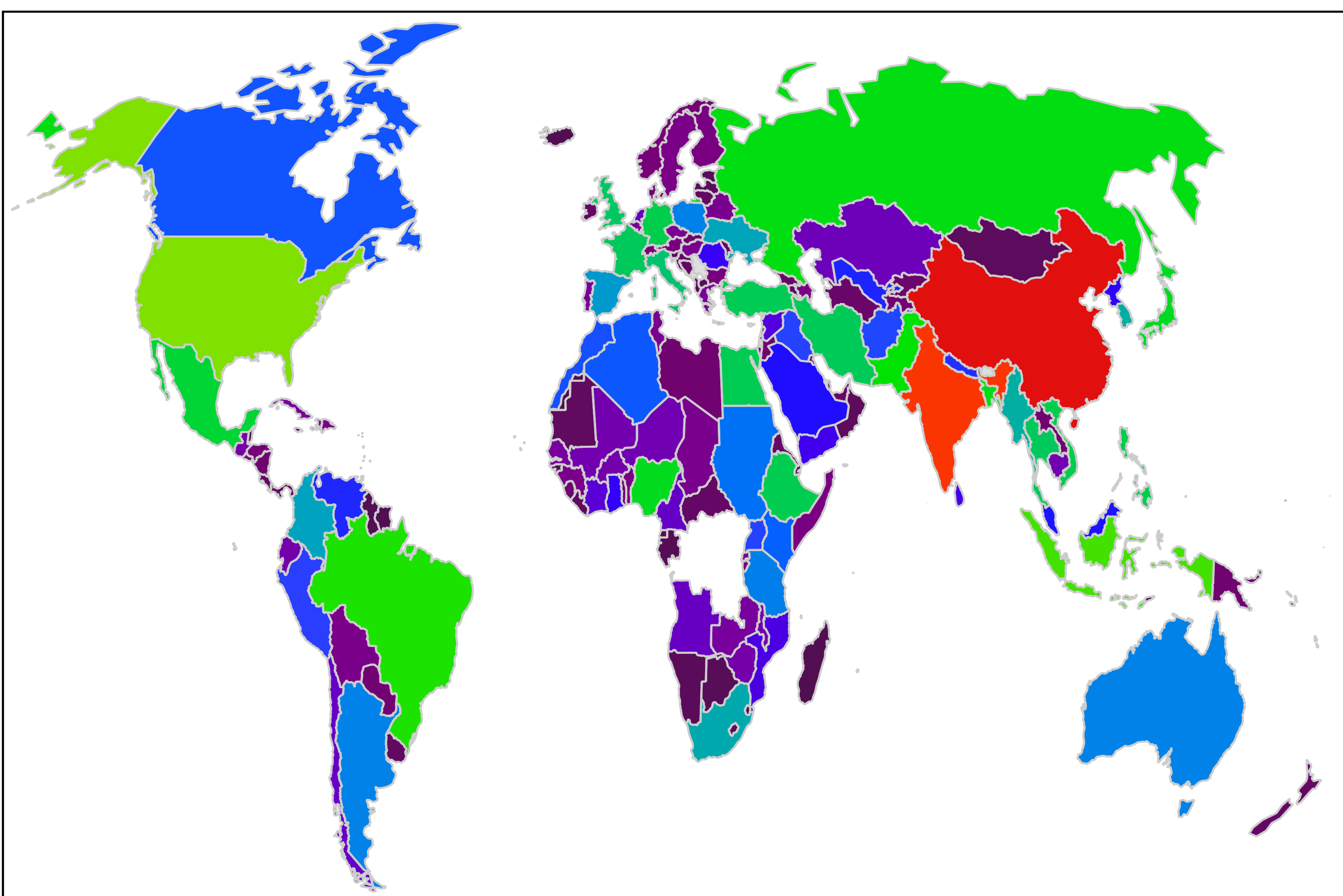
JMP provides a powerful platform to explore large data sets. At Abbott Diagnostics, we have the capability to query data from our customer's instruments from around the world. Using JMP we have applied methods to address questions about our products, our customers, and our instruments that were previously too challenging to address in a reasonable timeframe. This presentation will show how we can monitor product performance, customer compliance, and diagnostic prevalence geographically around the globe. We achieve this capability using an ODBC in combination with JMP Scripting Language (JSL). Together, this set up allows for data to be rapidly and flexibly queried an imported, allowing the user the capability to begin exploring the data with all the statistical power available in the JMP software. Since each exploration into the dataset may vary, yet may be required to be well documented, JSL offers a means for traceability as reproducibility. Simply by capturing the script as the analysis is performed, it can be reproduced and verified, but the analysis can remain flexible for innovation.

Diagnostic Instruments



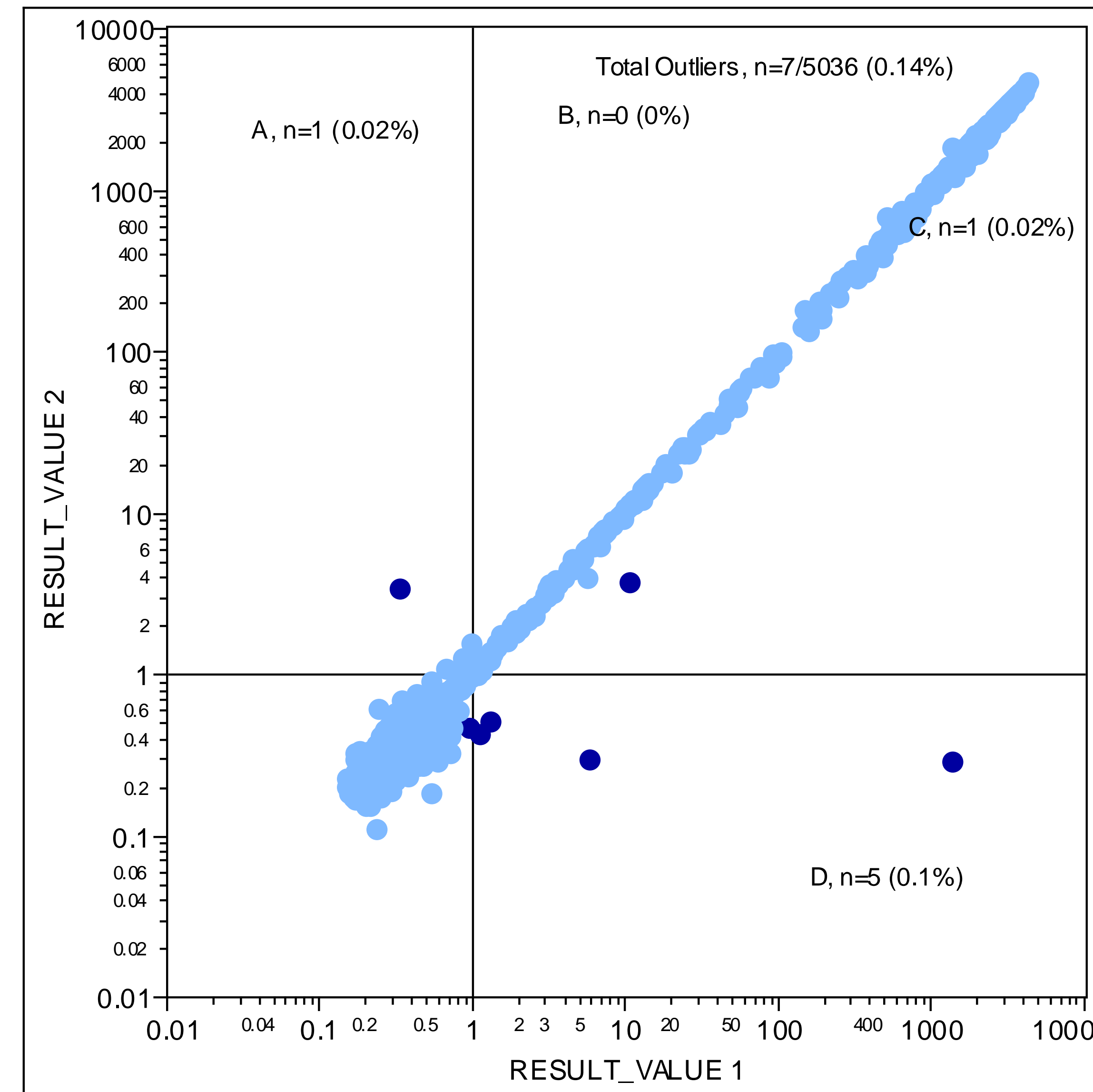
Data from instruments worldwide is collected in a database without patient identifying information. The database can be accessed with JMP through an ODBC connection. Using a combination of JMP interactive menus and JMP scripting both product performance and customer behavior can be evaluated.

Diagnostic Prevalence- Geographic Distribution



Data contrived to protect proprietary information.

Performance



Data contrived to protect proprietary information.

Test points can be evaluated for outliers

Replicates Collected:

1,233,242 from 33 countries

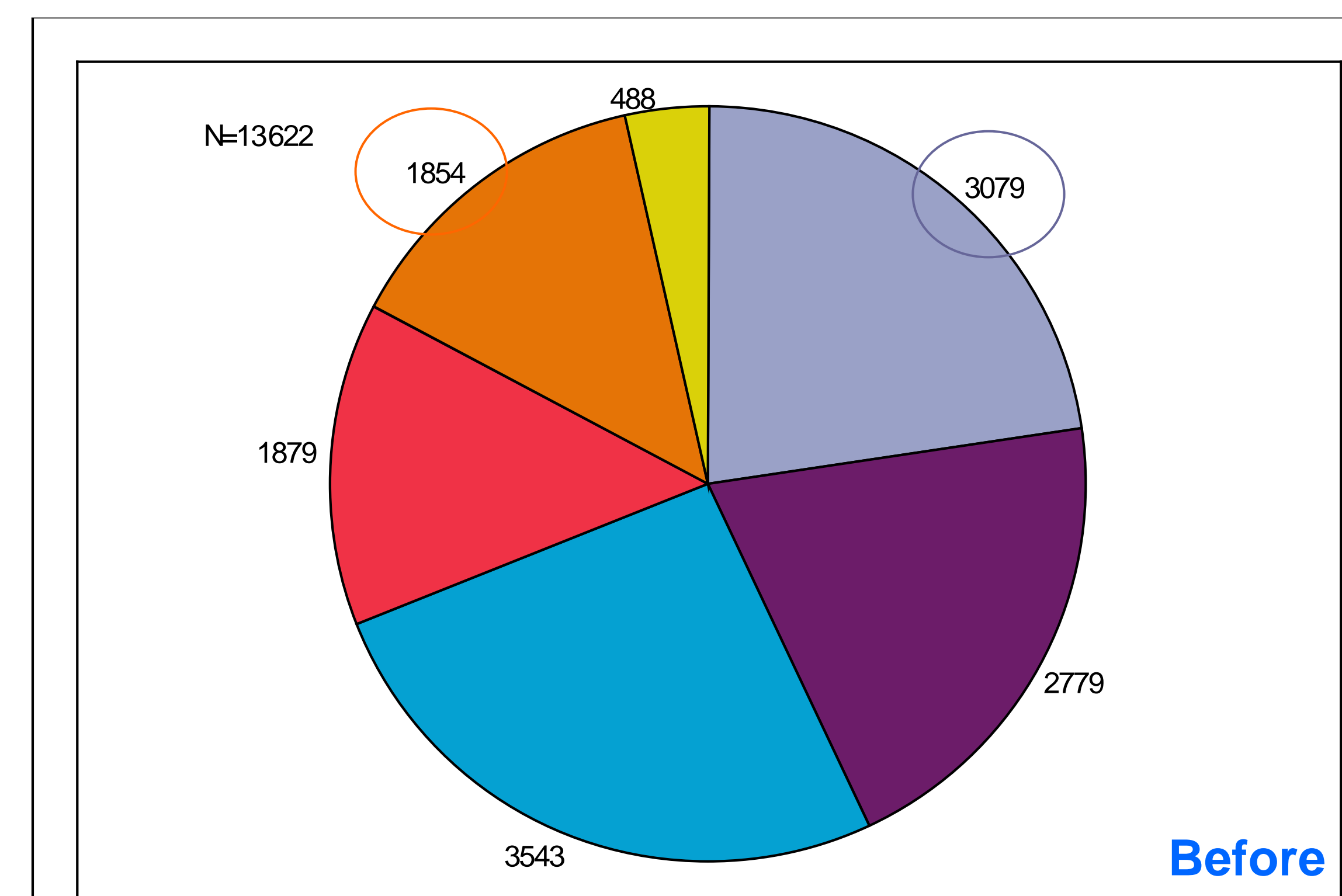
Samples Evaluated in Duplicate:

2,518 samples from 31 countries

Outliers:

7 (0.14 %) in 5 countries

Customer Behavior



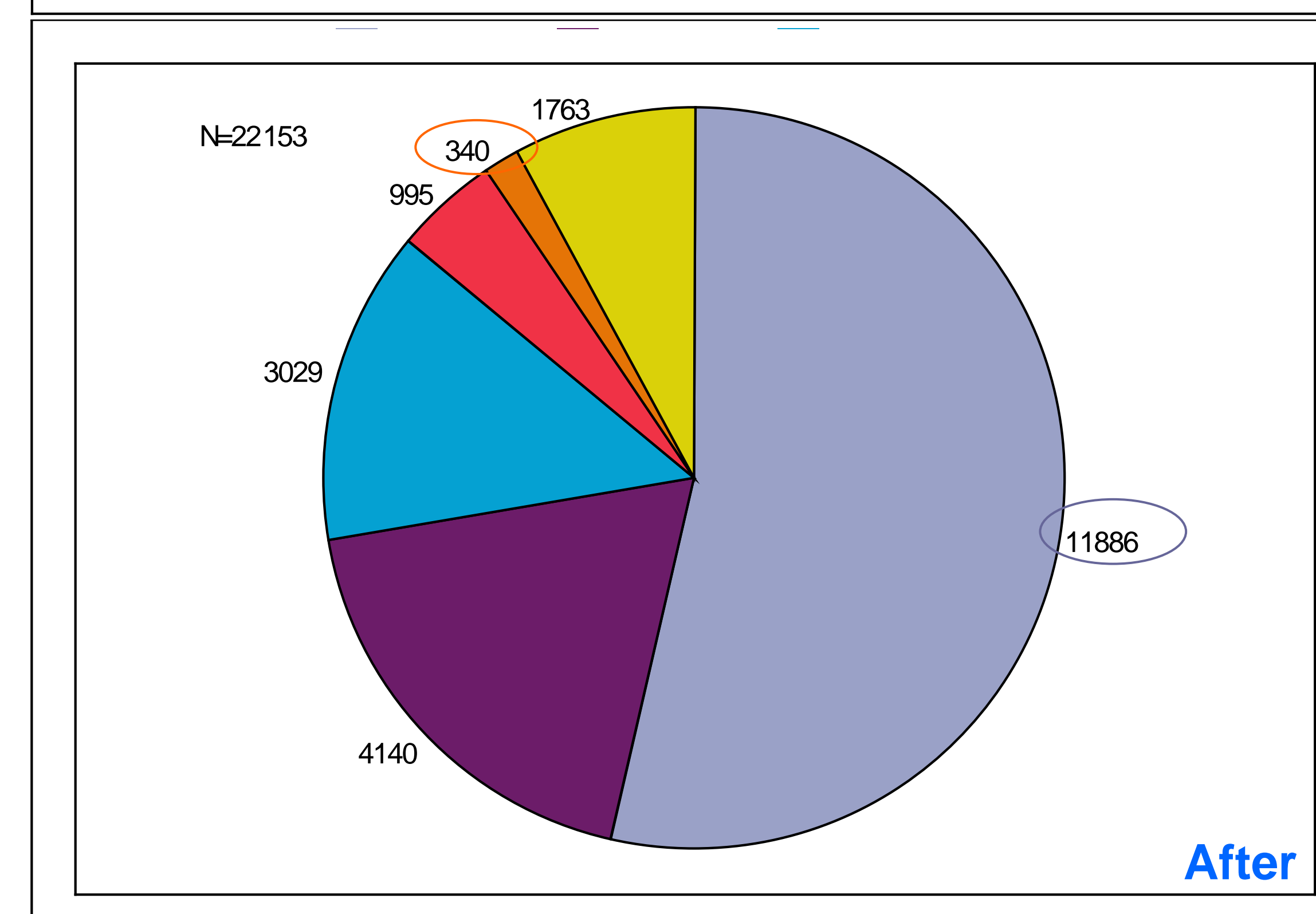
Data contrived to protect proprietary information.

Customers using our technology were informed of an improved methodology.

By remotely monitoring the instrumentation, we can assess the impact of this communication.

Before, 3,079 were already using the improved methodology and 1,854 were using our existing methodology.

After, 11,885 were using the improved methodology and 340 were using our existing methodology.



Conclusion

JMP is an effective tool to explore and analyze data sets from a database and for developing and writing analytical procedures with JSL.