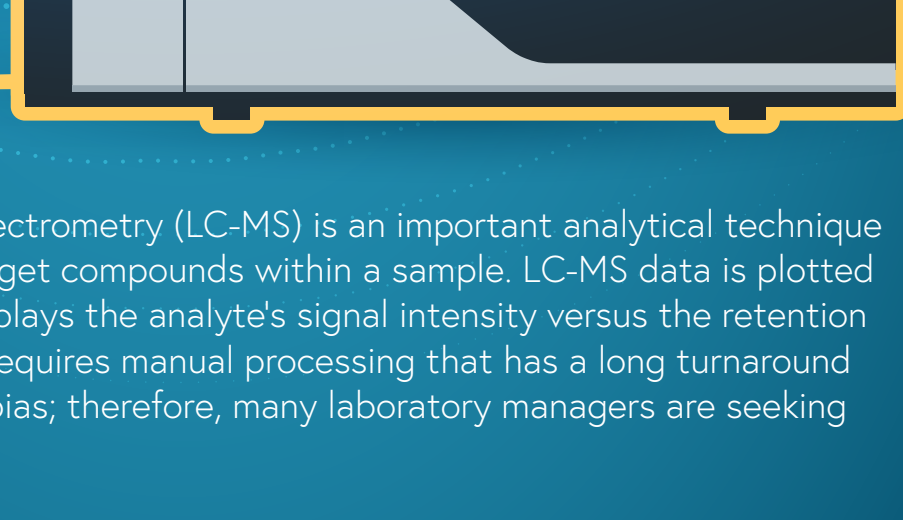


INTELLIGENCE INSIDE

Streamline Your LC-MS Workflow



Liquid chromatography-mass spectrometry (LC-MS) is an important analytical technique used to quantify and identify target compounds within a sample. LC-MS data is plotted onto a chromatogram, which displays the analyte's signal intensity versus the retention time (RT).¹ LC-MS data analysis requires manual processing that has a long turnaround time and can produce operator bias; therefore, many laboratory managers are seeking to automate the process.

This infographic will explore the benefits of automated software for LC-MS peak integration analysis.

The LC-MS Workflow



SAMPLE PREPARATION AND LC-MS

A significant portion of sample preparation and LC-MS data acquisition can now be automated. Data consists of many chromatograms, each corresponding to the target components. Large datasets are generated after an overnight batch.

DATA PROCESSING, REVIEW, IDENTIFICATION, AND REPORT

The chromatogram is analyzed by software to detect analyte peaks. If peak detection is not correct, then the parameters need to be adjusted or corrected manually.

Once the peaks are identified, the quantitative data is collected, and an analysis report is produced.

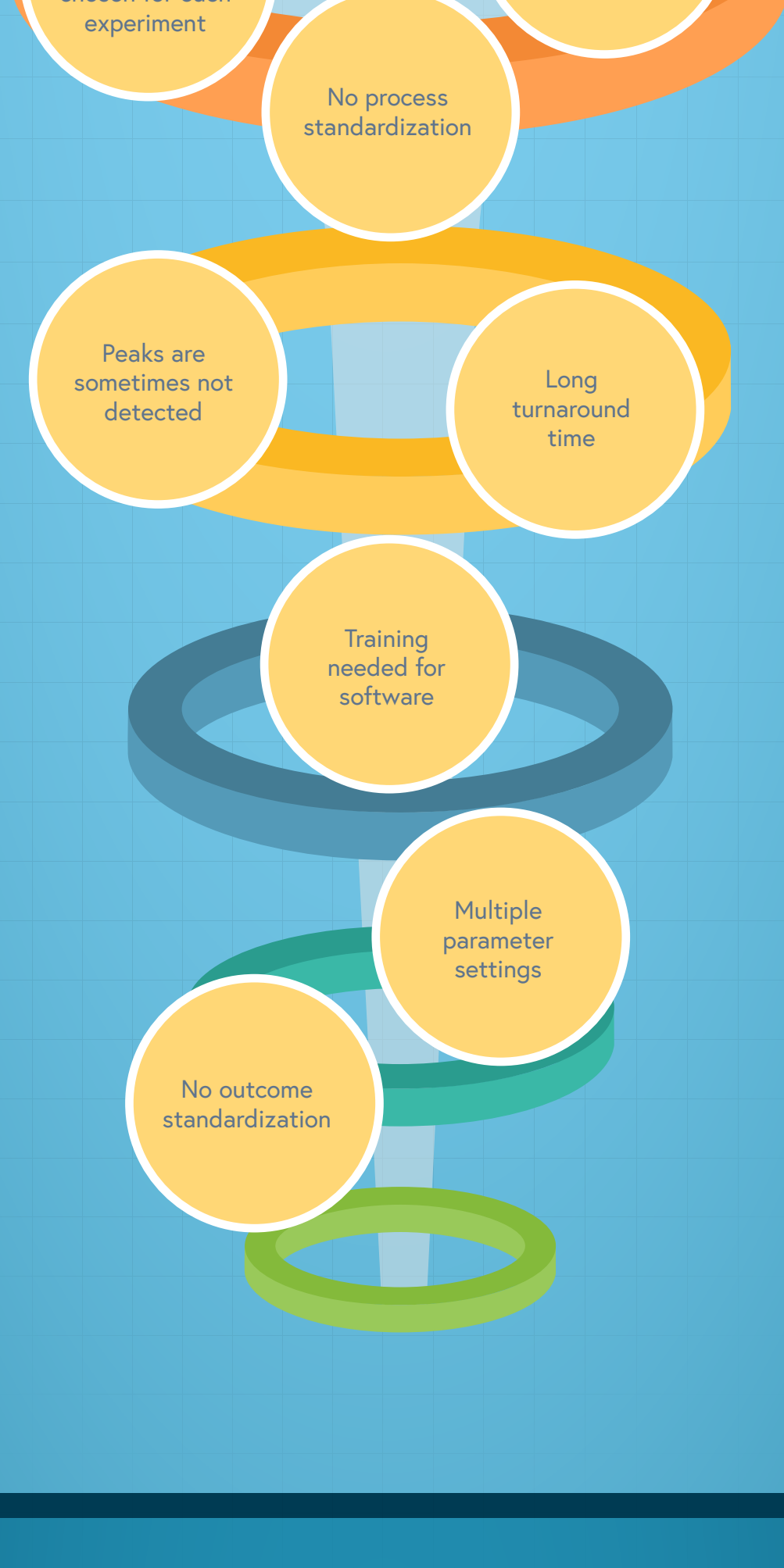
Challenges for Peak Interpretation

As an analyte elutes from a column, its signal intensity rises then falls, like the peak of a mountain. Peak interpretation is inherently subjective and prone to errors. For example, different operators use different parameters for the same peak, and the variety of peak shapes and noise patterns that are found in real-world analysis can also prove to be a difficulty.²

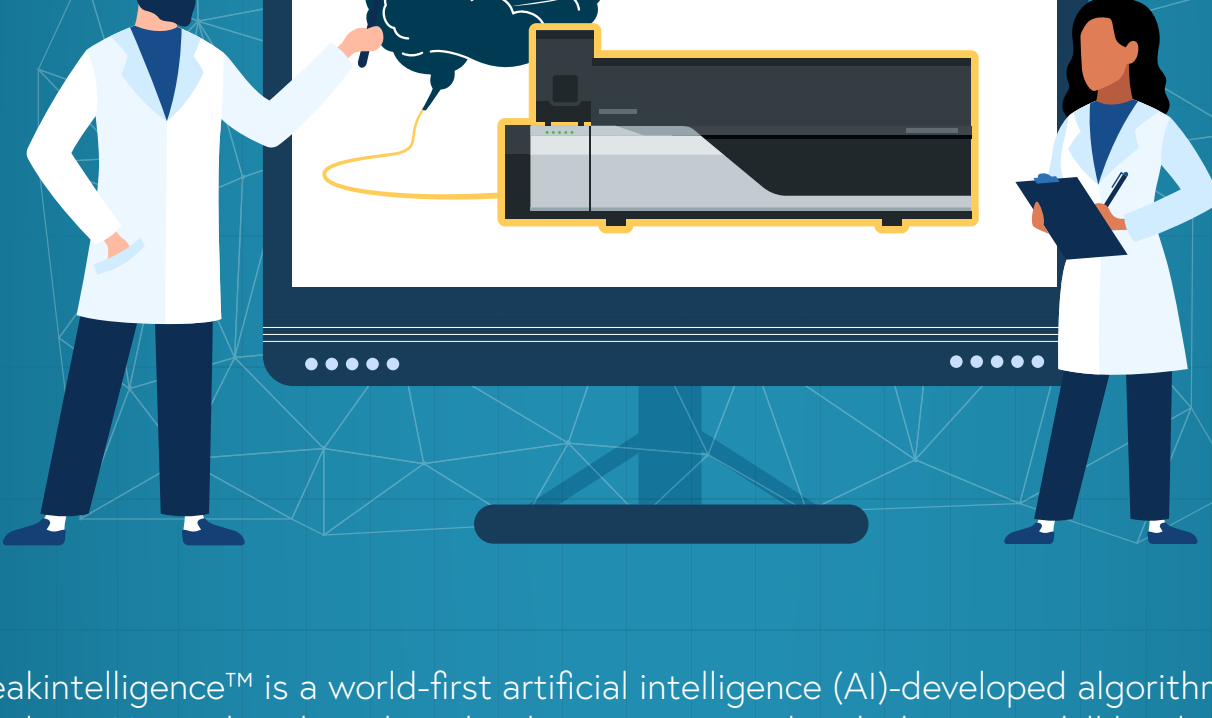
While peak interpretation has traditionally relied on the operator's experience and skill, this can cause operator bias, commonly, a double check is needed by another operator.



One way to remove this is by incorporating automatic software for peak interpretation and analysis. However, conventional algorithms also have their limitations:



An Innovative Solution for Peak Analysis

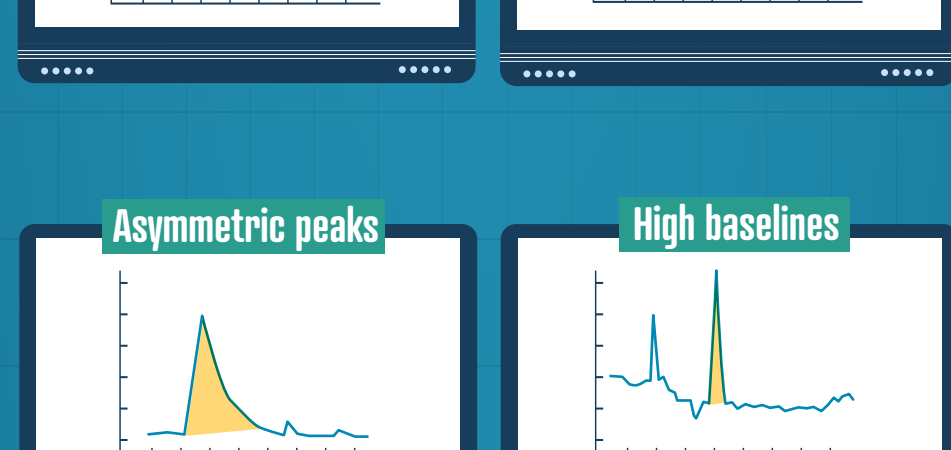


Peakintelligence™ is a world-first artificial intelligence (AI)-developed algorithm for peak analysis. Using this algorithm, the data is processed with the same skill level as an experienced user without any parameter input, reducing the operator's workload by 66%.

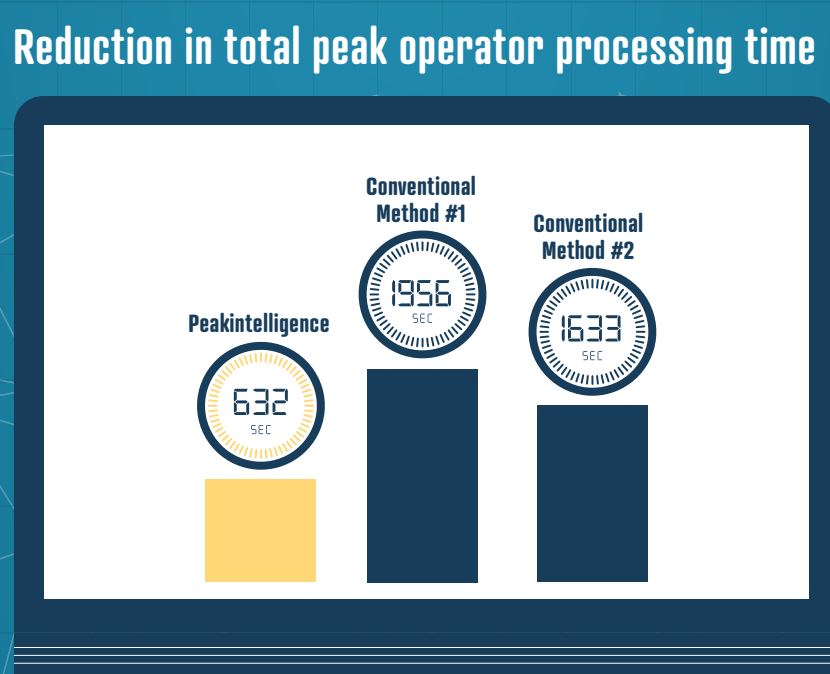
Advantages of this software include:

Reliable peak detection without parameter adjustments

This can be especially beneficial for difficult chromatograms, such as:



Reduction in total peak operator processing time



Peakintelligence can be used in a wide range of applications, including:



For more information, please [CLICK HERE](#)

References

- McMaster M. *LC/MS*. Hoboken, NJ: Wiley-Interscience; 2005.
- Katajamaa M, Oresic M. Processing methods for differential analysis of LC/MS profile data. *BMC Bioinformatics*. 2005;6:179. Published 2005 Jul 18. doi:10.1186/1471-2105-6-179