OVERVIEW

Researchers and experimenters are faced with the challenges of continuous improvement and accelerating innovation while keeping down the costs of conducting physical experiments. They follow long cycles of physical experiments and analysis of test results, which typically take weeks. To maintain a competitive advantage alongside evolving industry trends, companies that seek to modernize and digitize their R&D workflows require a tailored and advanced analytical solution, which will scale with their changing business requirements in the long term. R&D teams require a robust and scalable solution to strike a balance between meeting operational demands in real time and delivering the competitive gains of agility, innovation, lower costs, higher quality, and rapid time to market.

SashLAB is a collaborative, data-management system that helps engineers and scientists boost product innovation and knowledge-worker productivity, particularly in chemical compounding and formulation, but also in discrete manufacturing. Its virtual lab system enables researchers to explore current and historical data from a single source for chemical compounds, recipes, ingredients, and research studies. Its extensive suite of analytical and data-visualization capabilities for predictive modeling and statistical analysis.

Figure 1. Compound editor enables compounds to be edited and compared easily

KEY FEATURES AND BENEFITS

Predictum's SashLAB application contains powerful baseline features and functionality, which can be tailored to meet clients' particular requirements and business objectives.

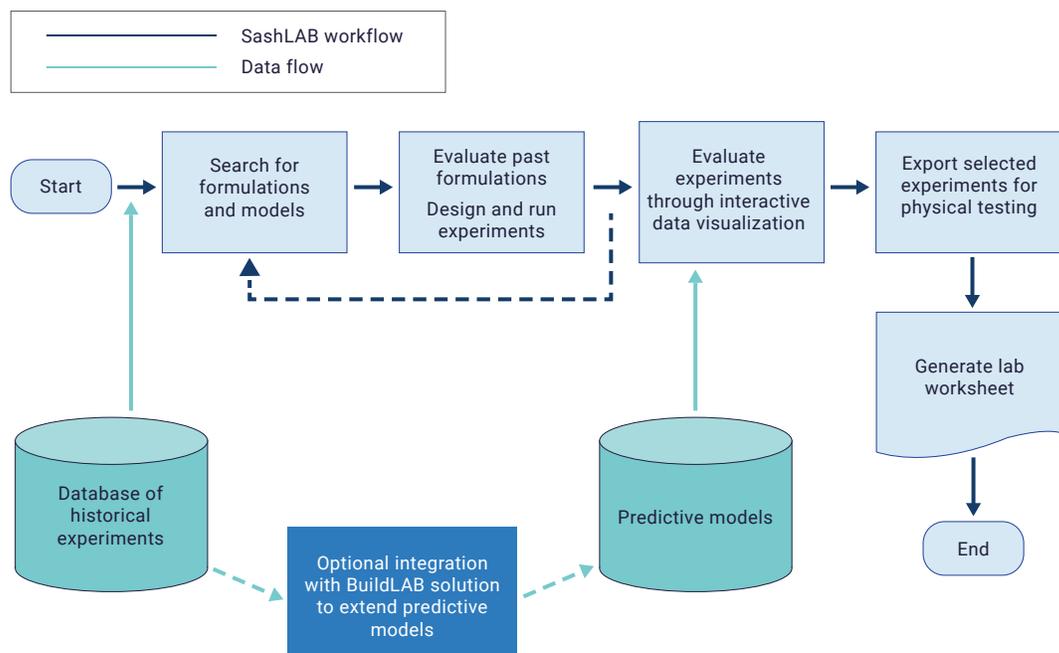| Key Features	Benefits
Advanced search filters for compounds and formulations, such as similarity search for recipes or critical quality attributes (CQA) and critical process parameters (CPP)	Avoiding the expense of re-creating experiments by quickly and easily identifying relevant past recipes
Formulation designer to edit and create compounds on the fly	Flexible and efficient reuse of existing recipes as a starting point for experimenting with new recipes
Cost editor for retrieving ingredient costs to calculate costs for compounds and formulation	Ability to make supply-side substitutions (for example, ingredients) based on supply chain factors associated to costs and availability
Interactive prediction profiler for finetuning factor settings to optimize CQA and CPP	Evaluation of experiments with predictive models based on cumulative lab results rapidly, in 10 minutes or less
	Selection of the most promising formulations to be physically tested, which results in cost savings and a shortened experimentation cycle
Ability to integrate with Predictum's BuildLAB predictive analytics solution	Extending SashLAB's predictive capabilities to new materials and process conditions for formulations with an expansive set of high-quality models

Figure 2. Ability to search for similar compounds based on flexible criteria

Figure 3. Ability to optimize measurement properties of compounds and formulations

VIRTUAL EXPERIMENTATION ENVIRONMENT

SYSTEM REQUIREMENTS

Software

JMP® software 13 and later versions

Operating Systems

Windows 7 SP1 – 32-bit and 64-bit

Windows 8 and 8.1 – 32-bit and 64-bit

Windows 10 – 32-bit and 64-bit

macOS 10.13 High Sierra or later versions

Processor

Minimum – Intel Pentium 4.2.8 GHz or equivalent

Recommended – Intel Core i5 2.4 GHz or equivalent

RAM Memory

Minimum – 16 GB

Recommended – 32 GB or more

Hard Disk Space

Minimum – 10 GB free

Recommended – more than 10 GB

Database

Microsoft SQL Server

ABOUT PREDICTUM INC.

Predictum Inc. is an analytical solutions company with clients of all sizes, including Fortune 100 companies in the semiconductor, biotechnology, pharmaceutical, chemical, consumer products, and automotive industries.

For over 25 years, Predictum has been enabling companies to achieve higher levels of analytical productivity, using advanced analytics and statistical methods routinely and effectively for continuous process improvement. Our team of engineers, statisticians, and programmers brings deep industry knowledge and experience in integrated analytical systems development, data science, and machine learning to provide our clients with robust and scalable solutions that deliver higher business value.

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