BIOVIA

3DEXPERIENCE®

GOOD SCIENCE, MADE EASY
WITH BIOVIA SCIENTIFIC NOTEBOOK

Datasheet

Every lab can benefit from an electronic lab notebook (ELN), but they are not all equal. BIOVIA Scientific Notebook takes a new approach, prioritizing scientists' needs and helping to leverage data like never before.

DASSAULT SYSTEMES

BIOVIA Scientific Notebook is a cloud-native electronic lab notebook (ELN) that is centered on the needs of scientists in the lab. It is operated as a Software-as-a-Service (SaaS) with a flexible, easy-to-use and mobile friendly design that makes it easy for scientists to quickly adopt into their workflows.

USER-CENTRIC

Scientific Notebook is designed to simplify the work and documentation efforts of scientists in the lab, allowing them to focus on actual experimentation and interpretation of results. Mobile-friendly design means the ELN can be used on any mobile device (laptop, tablet, smart phone) for greater flexibility both inside and outside of the lab. Dynamic user-based templates enable experiments to be set up quickly based on pre-defined parameters. Structured and unstructured data can be quickly recorded, or added through drag-and-drop actions. Integrated material management enables centralized tracking of common reagents and formulations used across experiments.

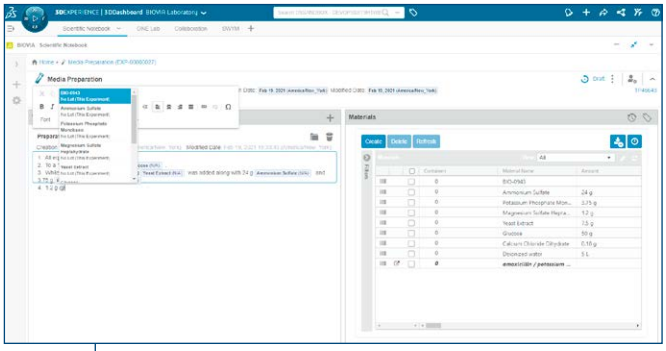

Figure 1: Media preparation with Scientific Notebook

Scientific Notebook also makes it easy to find all related information across your organization. Existing experiments can be searched by various parameters, including experimental maturity states. Searches also leverage 6W tagging: Who, What, When, Where, Why, and hoW. By tagging data with 6W tags, searches can be quickly narrowed down to the most relevant information, which is essential for quickly querying large data repositories.

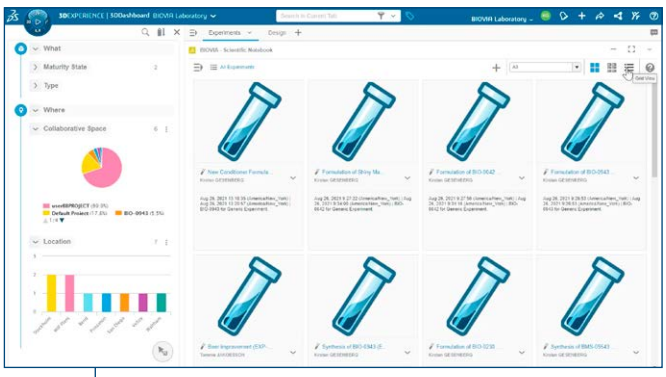

Figure 2: Searching for experiments by maturity state

THE NEXT GENERATION OF DATA

Where traditional ELNs are document-centric (think "paper-on-glass"), Scientific Notebook is built using a data-centric approach.

Scientific Notebook leverages a Resource Description Framework (RDF) data model to create a knowledge graph of experimental lab data. In practice, this means that each piece of lab data has a variety of associated metadata, and is connected to other related information. The result is a much deeper level of connection between lab data, enabling greater scientific insights and knowledge management.

> "Free text is no longer enough. Our next ELN needs to have parameterized data."
>
> — Director, Procedure Development, Global BioPharma

The RDF data model enables bi-directional linking from experiments, studies, materials, methods, equipment and more, along with actionable objects inside the ELN. This adds additional dimension and a deeper meaning to the data, making it more valuable and useful.

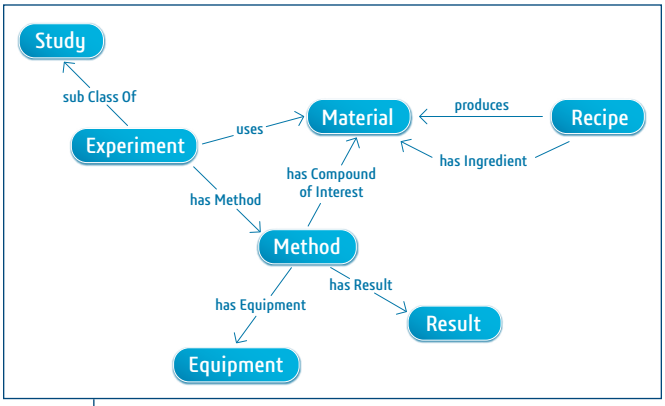

Figure 3: A sample knowledge graph of data in Scientific Notebook

3DEXPERIENCE CLOUD PLATFORM

Scientific Notebook is a native solution on the Dassault Systèmes **3D**EXPERIENCE® platform, a collaborative cloud-based environment that empowers new business innovations. By leveraging the **3D**EXPERIENCE® platform, Scientific Notebook centralizes experimental data for always-on access, and enables scientists to leverage the deep scientific capabilities across the platform's ecosystem of solutions. The open **3D**EXPERIENCE® platform also enables access to external marketplaces and other 3rd party services.

COMPLETE COLLABORATION

Scientific Notebook is an ideal solution for connecting teams across institutions and geographies, providing instant access to scientific information at any time, from any location, on any device. With the **3D**EXPERIENCE® platform, Scientific Notebook offers specialized collaboration tools like ideation funnels, project tracking and maturity states, configurable communities, communications and notifications. Scientists can also search across the different **3D**EXPERIENCE® platform solutions from a single search bar. With directly connected applications and direct access to experimental data and results, Scientific Notebook enables collaboration like no other solution in the market.

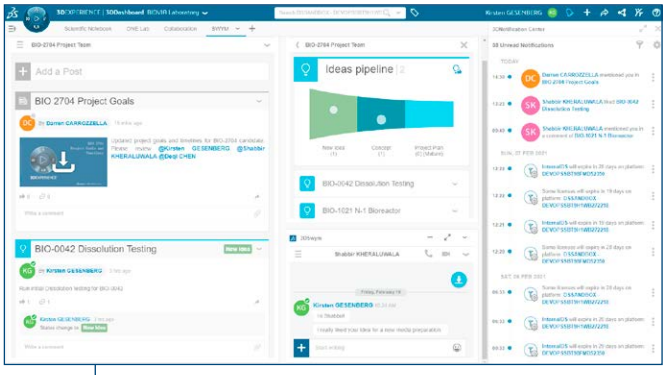

Figure 4: Collaboration on Scientific Notebook

SYNTHETIC CHEMISTRY

Scientific Notebook includes built-in support for synthetic chemistry, enabling scientists to design and modify reaction syntheses and stoichiometry directly within the ELN. Structures can be added through drag-and-drop, drawn with the included editor, or by browsing for existing structures in the ELN library. The stoichiometry table is configurable for custom views with column sorting, and includes built-in stoichiometry calculations. Materials can be added from the ELN library, or created directly within the stoichiometry table.

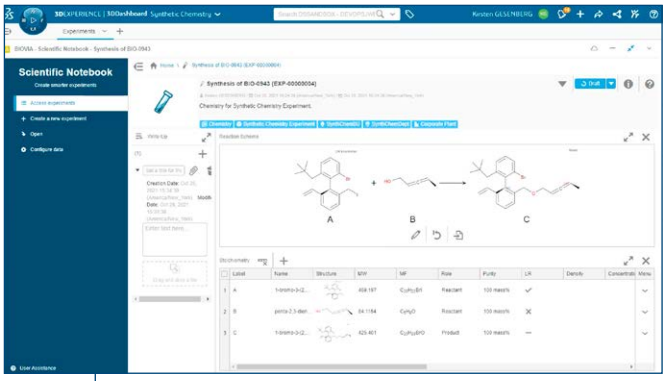

Figure 5: Building synthetic chemistry reactions

FORMULA DESIGN

Scientific Notebook integrates tightly with BIOVIA Formula Design, for simplified workflows in formulation development and experimentation. After a formula is defined in Formula Design, scientists can simply drag-and-drop the formulation object into Scientific Notebook, which automatically recognizes it as a formulation. A pre-built experimental method is automatically generated in the Scientific Notebook experiment, and the relevant formulation materials are included with actionable links. Together, Scientific Notebook and Formula Design transform the testing of reformulated and new formulations, making it easier than ever, with no time wasted duplicating work in the ELN.

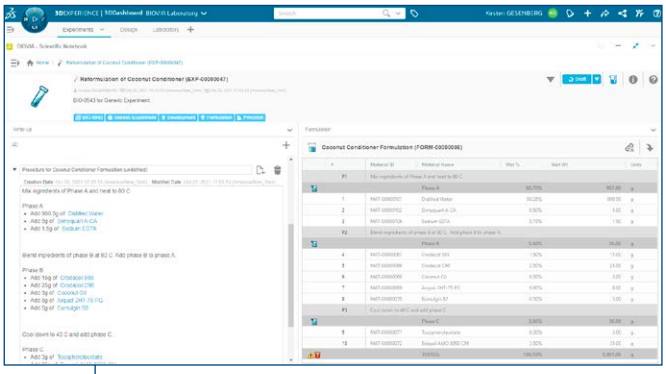

Figure 6: Formulations Experiment

CONSOLIDATE YOUR ELNS

Scientific Notebook can index and display experimental records and results from existing BIOVIA Workbook and BIOVIA Notebook installations, ensuring scientists have access to all previous experimental data. It is also extensible to other 3rd party ELNs. This provides a built-in migration pathway to incorporate data onto the **3D**EXPERIENCE® platform from any ELN making sure no scientific data is orphaned in legacy applications.

FROM R&D TO QC AND MANUFACTURING

Each stage of the product development lifecycle relies on specific scientific labs, which each have their unique needs and workflows. The flexibility of Scientific Notebook and the integration with other BIOVIA laboratory informatics applications on the **3D**EXPERIENCE® platform makes it the ideal ELN for a deployment across the entire development lifecycle. Experimental flexibility and unstructured data capture is supported for early research; more structured data capture, controlled workflows and audit trails are prioritized for later development and quality control workflows. The ELN can be used to document work and ensure full audit trails in manufacturing as well.

For truly transformational collaboration across disciplines, scientists must be able to easily share data and connect with colleagues of any department. As part of BIOVIA's integrated laboratory informatics solution, Scientific Notebook enables organizations to consolidate into a single ELN to ensure consistency and collaboration across the entire business.

PRODUCT FEATURES

BIOVIA Scientific Notebook provides a complete range of capabilities that help organizations efficiently capture and manage experimental information, gain insight, improve collaboration, and improve laboratory and scientific productivity.

Capabilities include:

- Capture of structured and unstructured data
- RDF data model for bi-directional linking and actionable data objects
- Dynamic, user-based templates for flexibility while enabling consistency
- Search records by full-text or chemical structure or sub-structure
- Built-in synthetic chemistry support
- Integration for formulation testing and experimentation
- Integrate experimental data from BIOVIA Workbook, BIOVIA Notebook, and 3rd party ELNs

BENEFITS

- **Make the Paperless Lab a reality** with an ELN that's easy to use and deploy
- **Consolidate disparate solutions** into a single ELN across the product lifecycle
- **Focus on science** by reducing non-value adding efforts
- **Increase data consistency** across all labs
- **Ensure integration** between formulations and lab testing
- **Create actionable knowledge** through scientifically-connected experimental data
- **Collaborate instantly** and easily store, search and share all notebook entries and experiments from any location
- **Protect your IP** with digital signatures, experiment templates and workflow alerts
- **Simplify digital workflows** with a unified laboratory informatics experience on the **3D**EXPERIENCE® platform.

Take the next step in your lab digitalization journey. Scientific Notebook ensures you are getting the most out of your data, with less effort, to make good science easy.

LEARN MORE

Our **3D**EXPERIENCE® platform powers our brand applications, serving 11 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3D**EXPERIENCE Company, is a catalyst for human progress. We provide business and people with collaborative virtual environments to imagine sustainable innovations. By creating 'virtual experience twins' of the real world with our **3D**EXPERIENCE platform and applications, our customers push the boundaries of innovation, learning and production.

Dassault Systèmes' 20,000 employees are bringing value to more than 270,000 customers of all sizes, in all industries, in more than 140 countries. For more information, visit **www.3ds.com**.

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