



3DEXPERIENCE®

DIGITAL FORMULATION

BIOVIA SOLUTION FOR PETROLEUM
FUELS, LUBRICANTS AND ADDITIVES



DIGITAL FORMULATION RESEARCH AND DEVELOPMENT

Leaders in the petroleum industry are redefining product innovation using digital solutions that accelerate time to market and improve competitive position. BIOVIA customer benchmarks confirm that a unified digital lab solution combined with process optimization technology offers unique capabilities for improving product performance. This integrated approach has been shown to reduce physical testing, lower cost and accelerate time to market, resulting in millions of dollars in captured opportunities.

BENEFITS TO FUELS, LUBRICANTS AND ADDITIVES

- Dassault Systèmes BIOVIA delivers an integrated unified laboratory management and process optimization solution that supports the complex needs of petroleum and additive product formulators. Our solutions are used to streamline operations and improve product performance.

OPPORTUNITIES FOR PETROLEUM AND PETROCHEMICAL COMPANIES

Companies adopting BIOVIA's unified digital laboratory and process optimization solutions have realized value across the entire product life-cycle including research, development, quality and process manufacturing.

Cost Reduction

- ↑ 60% or more in right-first-time submissions; avoid costly resubmissions
- ↓ 5-15% reduction in product launch costs

Business Process Optimization

- ↓ 3x-10x workflow response
- ↓ 15% reduction in laboratory testing time

BIOVIA BENCHMARK METRICS



STREAMLINE INNOVATION

CHALLENGES OF COMPLEX AND OBSOLETE PRODUCT DEVELOPMENT PROCESSES

Traditional formulation lifecycles often diverge across sites creating a competitive disadvantage, either by lengthening time to market or reducing revenues due to lost data. These obsolete processes retard innovation and result in difficulty searching information and inability to reuse methods and best practices.

BENEFITS OF AN ENTERPRISE DIGITAL FORMULATION STRATEGY

Petroleum and petrochemical organizations have always been driven to streamline product life-cycle processes with the ultimate goal of optimizing resource utilization and offering better performing products. BIOVIA's unified laboratory solution is a powerful next-generation integrated electronic laboratory notebook (ELN) designed to optimize product performance for engine oil and lubricant manufacturers. Researchers, formulators and product managers use the digital laboratory environment to document actions, design experiments, create formulations and analyze information. BIOVIA's integrated process optimization solution enables organizations to aggregate and analyze process information with scientific formulation and design data to reduce physical testing and increase insight. Our solutions improve operations to optimize refining margins, improve energy use and reduce plant shutdowns.

UNIFIED LABORATORY APPROACH TO OPERATIONAL EXCELLENCE

Enterprise excellence requires a comprehensive approach to digital initiatives including innovation and quality-related activities such as laboratory and manufacturing testing. Direct benefits to the downstream oil and gas industry include:

- **Streamline Formulation Processes:** Organizations benefit from faster and more accurate formulation development by using a collaborative, data-driven scientific platform that increases the amount of available information while also making information easier to find and use.
- **Do More with Less:** BIOVIA's integrated and automated unified laboratory environment reduces rework and physical testing, enabling scientists and formulators to do more experimentation and analysis in less time.

ACCELERATE TIME TO MARKET

Integrating pilot and testing processes with the product research and development life-cycles enables analytics-based investigation that reduces physical testing and rework.

IMPROVE PRODUCT PERFORMANCE

BIOVIA laboratory solutions democratize product information on a common platform to optimize product performance. Improved collaboration combined with high through-put analysis technologies contribute to better product performance from increased insight and digital testing processes. Moreover, by making vast amounts of internal intellectual property, public archives, industry databases and other third-party information available to disparate and remote teams, BIOVIA solutions improve collaboration, speed decisions and accelerate innovation.





THE CASE FOR CHANGE

Downstream petrochemical organizations can improve collaboration across sites, globalize standardized best practices, increase reuse and streamline operations to capture value from higher performing and more strategically targeted products that meet market needs.

Strategic Benefits

- Improve technology conversion by accelerating formulation and discovery processes
- Expand margins through productivity gains
- Improve competitive position through innovation and operational excellence

Economic Benefits

- Accelerate knowledge transfer from retiring employees; speed operational release cycles
- Increase insight and improve discovery through use of digital high-throughput scientific analysis technologies
- Streamline collaboration to improve response times

Risk Mitigation

- Standardize processes with full traceability of all laboratory activities
- Use technologies designed for research and innovation to significantly reduce work and error
- Reduce operational and compliance risk with greater visibility across operations

IT Impact

- Replace custom implementation with configuration
- Improve end-user adoption
- Simplify IT landscape with reduced IT development/maintenance costs

THE VALUE OF PARTNERING WITH BIOVIA

Downstream and chemical organizations need a trusted, strategic partner that shares their vision and passion for what is possible in today's rapidly changing environment. Dassault Systèmes BIOVIA offers unparalleled experience and a strong track record in the petroleum and chemical industries to support this business and IT transformation journey.

We look forward to assisting oil and gas organizations with overall product development, design and deployment to accelerate the transition from evaluation to implementation of an industry-leading unified digital laboratory and process optimization solution.



The **next step** is to develop a strategic business partnership with BIOVIA aimed at deploying a BIOVIA solution that will improve product performance, streamline operations and accelerate innovation to market.

Our **3DEXPERIENCE®** platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3DEXPERIENCE®** Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.



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