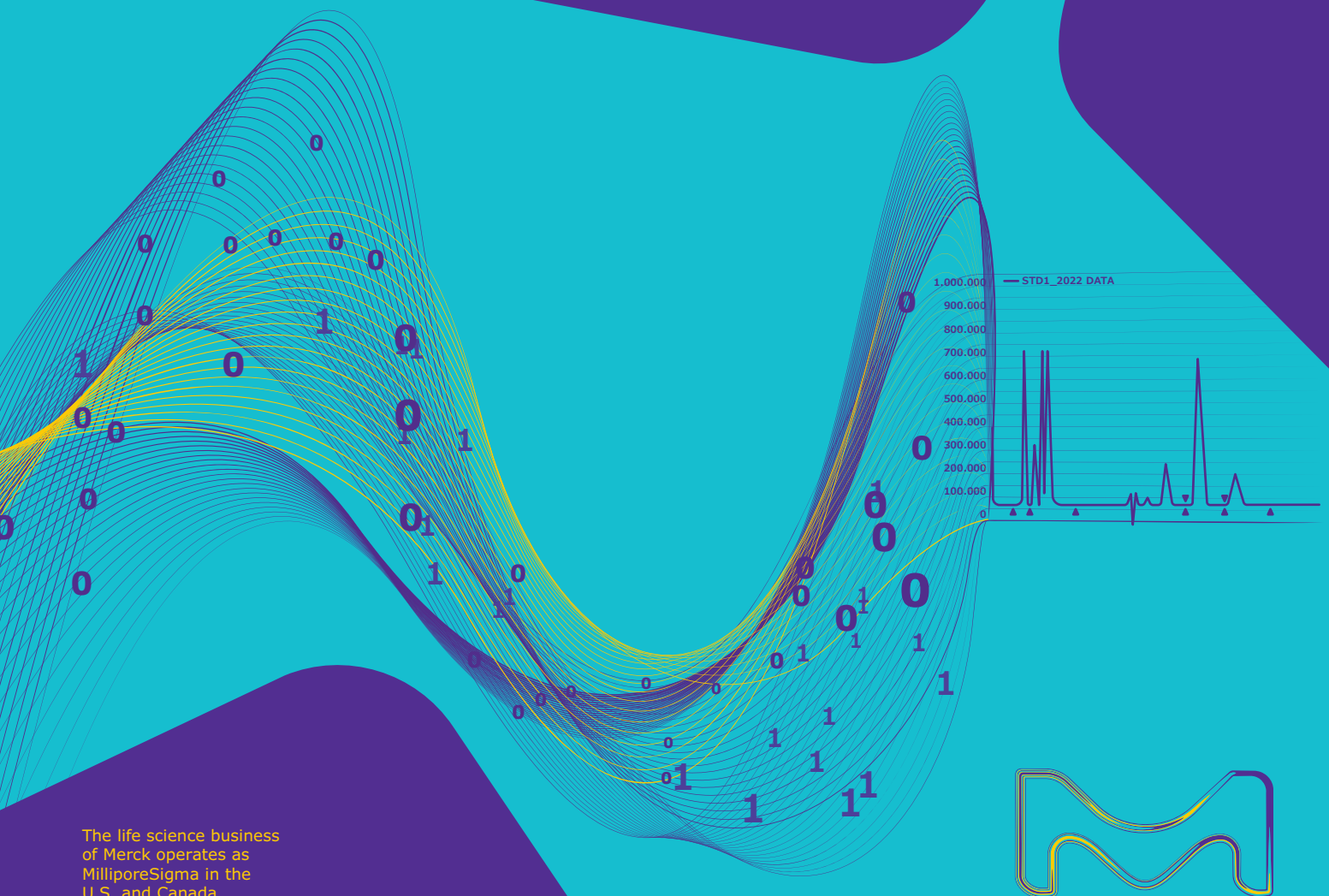


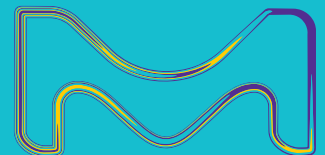
DATA MANAGEMENT SOLUTIONS

# unleash the power of laboratory data

For better data integrity, data management and scientific collaboration



The life science business of Merck operates as MilliporeSigma in the U.S. and Canada.



# The Future of Laboratory Informatics is here

Data Management Solutions from Merck (formerly BSSN™ Software) lets you access, integrate and share analytical and biological lab data in a structured format for greater lab standardization and interoperability. Its vendor-neutral platform helps you overcome accessibility limitations in lab data storage by eliminating traditional paper-based or partially digitalized approaches.

With Data Management Solutions, you can easily integrate your instruments with leading laboratory software systems like LIMS or ELN and facilitate data exchange with internal or external partners.

- Convert proprietary instrument data into an open standard
- Remain instrument vendor agnostic
- Enable flexibility and straightforward data integration



## AnIML

AnIML is the emerging open source ASTM XML standard for analytical chemistry and biological data. An AnIML file consists of the following:

- A Core Schema that describes a set of rules defining the valid structure of an AnIML file.
- A Technique Schema that describes how to handle and render domain-specific data in a way that makes sense to the user for a given technique.
- A set of Technique Definition documents that tightly constrain the Core Schema and are defined by the Technique Schema. You can extend Technique Definitions to accommodate vendor- and institution-specific data fields.

Many tools for XML are available off the shelf, making AnIML implementation easier. Because XML is text based, AnIML documents are human readable, which is critical to long-term storage. As AnIML files can—in principle—capture data from any scientific technology, efforts are ongoing to drive the adoption of the AnIML standard across a wide variety of scientific domains.

## Data Integrity



### Capture & Convert

- AnIML converters for 300+ instruments and data formats
- Bringing analytical and biological data into one common format
- Among others, available formats include: AnIML, mzData, ANDI / netCDF, Thermo SPC, JCAMP-DX, Thermo GAML, mzML

### Integrate

- Uni- and bidirectional interfaces for communication and data integration
- Provide instrument data to LIMS, ELN, LES or SAP for consumption
- Enrich AnIML files with data from, and orchestrate instruments from, LIMS/ELN/ERP

## Data Management



### Collect

- Data lake as home to all laboratory data and to all metadata-driven navigation & queries
- Storage (cloud or on-premise) for analytical and biological source data, processed data and metadata

### Visualize & Process

- Technology-neutral visualization and processing of converted data and metadata
- Transparently review your data at any place, any time
- Windows, Mac, HTML

## Collaboration



### Collaborate

- Collaboration with internal & external partners (CRO, CDMO)
- Get organized and maintain the same data quality as in-house

### Consume & Analyze

- Re-use laboratory data for predictive analytics, statistics, data mining, and AI & ML
- Enable data intelligence and secondary use of data

## Archive



### Data Retention

- Long-term retention of GxP-relevant data
- Storage of data over a long period of time in an accessible and human-readable format

## Applications

### Analytical Chemistry

- HPLC
- IC
- CE
- GC
- UV/Vis
- Infrared, FTIR
- Raman
- Mass spectrometry
  - HPLC-MS
  - GC-MS
  - ICP-MS
- NMR
- XRD
- Laser diffraction

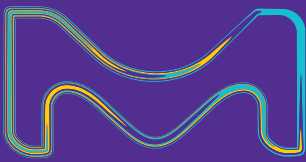
### Biology

- Bioreactors
- Microbioreactors
- Microplate readers
- Cell counters
- Bioanalyzers
- Purification chromatography
- qPCR

### Other

- Balances
- pH meters
- Imaging
- Pipetting/liquid handling
- Density

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