Data.CONNECT

Unleash data power

Positioning

STANDARD MODULES

- Integrate
- Automate
- Quantity Management
- Databridge
- Life Cycle Management/Archiving
- Content Search
- Data Lake Gateway

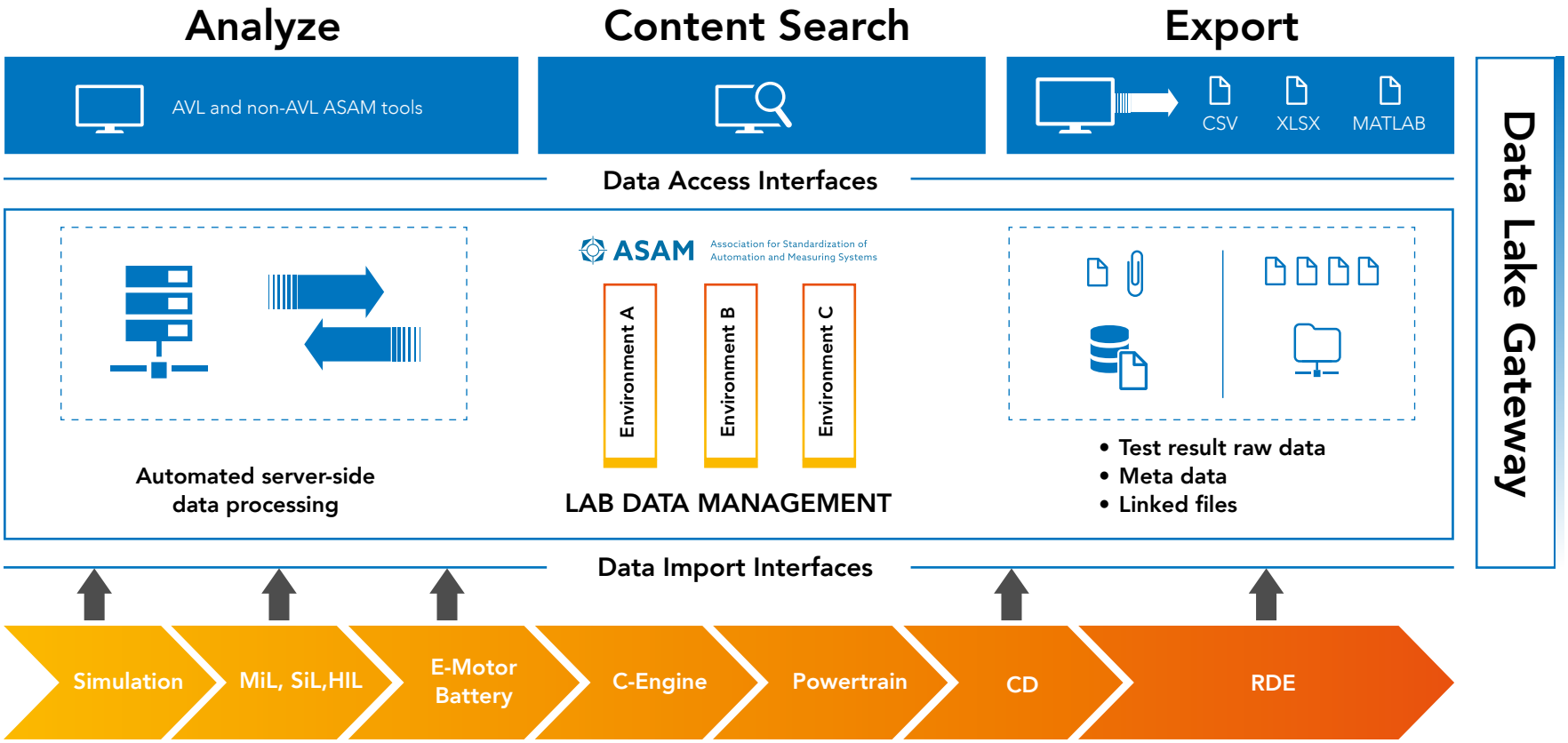
CONSULTING AND CUSTOMER SOLUTIONS

Data.CONNECT LAYER

THE CHALLENGE

For the automotive industry, developing and securing a growing number of complex vehicle variants – within a short period of time – has proven to be a major challenge. Consequently, the amount of data produced during validation and verification has risen dramatically over the years. Next to this, the various sources of generated measurement data, being recorded during simulation or in the vehicles, across all propulsion systems also increased heavily.

Additionally, new regulations for traceability of data, product liability and the handling of large volumes of data – so-called “big data” – are key for all players in the future markets. The goals are to generate insights of the generated data so that business decisions can be based on clear and traceable information and to speed up the development process.



THE AVL SOLUTION

Data.CONNECT™ is a highly standardized and modularized data management solution for harmonized data integration, search, exploration, and automated processing. No matter where and on which level of the development process the data is generated, the system manages heterogeneous data in a consistent and synchronized way to meet current and future challenges. It logically connects data from various sources all over the development process.

To address all of your business needs, we ensure data quality that leads to time-saving and optimal test productivity. Additionally, if our highly standardized modules are not fit to your landscape, or you have individual requirements, we offer comprehensive business analysis and consulting as part of our holistic solution. To find the best solution for your requirements, we offer professional services to bring your project idea to life – always with the goal of industrialization.

WHY A MODULAR APPROACH?

- The software service architecture provides individual life-cycles for each module, which guarantees a state-of-the-art overall solution
- The modules are already applied in the AVL reference solutions for virtualization, lab management and in-vehicle testing and can be adapted to individual requirements
- The whole solution and the individual modules are fully compliant to enterprise IT requirements
- The standardized modules can be used in your whole development ecosystem, independent of the application

Business Analysis and Consulting

We have developed a standardized consulting process to enable continuous validation and verification in the whole development process from the simulation to start of production and beyond. Our concept allows to validate against product requirements in all phases of the development process relying on prototypes – either virtual, mixed virtual/real, or real. The basis is a comparison of your current situation with our globally acquired positioning benchmarks. Taking your vision and needs into account, a revised “big picture” - the target state - is derived. A fit-gap analyzis covering process, application capabilities and information objects is the input for the implementation roadmap. These initiatives are resulting in requirements for your ecosystem, either implemented by yourself or by our AVL experts.

Customer Solutions

We connect our solutions to your existing ecosystem to form an integrated and open development platform. The clear goal is to generate solutions for you using standard modules and products either from AVL or third-party suppliers based on industry standards. We follow the approach of creating industrialized solutions, guaranteeing long-term support based on our service agreements. An important input for all our products and solutions are the results of our benchmarks and consulting initiatives.

Standard Modules
Data.CONNECT

INTEGRATE

CHALLENGE

- Heterogeneous result data from the entire development process must be evaluated and validated
- Manual harmonization through desktop tools across multiple data sources is ineffective and causes quality issues
- Result data without context describing metadata is worthless

SOLUTION

- Integration of any heterogeneous result data based on the ASAM-ODS standard
- The context between measurement data and descriptive metadata is created during the integration process
- The automated harmonization provides ready-to-use data for the development

YOUR BENEFIT

✓ Time saved for engineering by providing prepared result data
✓ Quality and efficiency boost by fully automated, standardized and scalable data integration
✓ Providing the full context picture by connecting process data with measurement data

AUTOMATE

CHALLENGE

- Increasing file sizes and heterogonous data make the processing on desktop applications ineffective
- Result data backlog due to 24/7 testing and missing automation
- Issues during tests are identified too late, high effort for re-testing

SOLUTION

- Interactive and/or scheduled batch processing
- Server-based reporting, data enrichment and calculations

YOUR BENEFIT

✓ Driving speed by automated processing on high performing servers
✓ Time savings by automated reporting leads to result data backlog reduction
✓ Enables online data validation and guarantees highest quality and effectiveness through early detection of wrong, incorrect and unneccessary data

DATA LIFE CYCLE MANAGEMENT/ ARCHIVING

CHALLENGE

- Increasing volumes of results data require an effective means of automated archiving
- The legislator demands traceability over the entire life cycle of the data, from integration to manipulation to archiving
- Expensive storage on relational databases

SOLUTION

- Life Cycle Management/Archiving enables automated archiving by moving data from the database to lower cost file storage alternatives. However, the archived data can still be evaluated, as there are references between the database and the file storage
- The module offers complete traceability by guaranteeing that all steps in the archiving of data are 100% traceable

YOUR BENEFIT

✓ Improve quality through automated management of the data lifecycle from integration to archiving
✓ Saving storage costs by archiving results data that is no longer needed

DATA BRIDGE

CHALLENGE

- Multiple Puma2Share and/or Data.CONNECT systems require the exchange of security data (access rights and roles) and quantities and units

SOLUTION

- Data-brige enables the exchange of quantity and security data within multiple Puma2Share and/or Data.CONNECT systems

YOUR BENEFIT

✓ Increase of efficiency by using harmonized security and quantity data over all globally distributed testfields
✓ Process improvement through continuous global data hygiene, which ensures a tidy and uniform data structure

QUANTITY MANAGEMENT

CHALLENGE

- Multiple Puma2Share and/or Data.CONNECT systems demand a centralized management of quantity data
- Quality and efficiency problems due to lack of data hygiene. This results in wrong, outdated and/or multiple created quantities

SOLUTION

- Quantity Management enables the central management of quantity data over multiple testfields
- Together with Data Bridge name the quantity data can be synchronized between all involved systems

YOUR BENEFIT

✓ Quality improvement through centrally managed quantities across multiple test fields
✓ Efficiency improvements by avoiding unnecessary duplicated quantities in all test fields involved

CONTENT SEARCH

CHALLENGE

- Lack of context between measurement and descriptive metadata
- Search for multiple search criteria within all measurements
- Fast preview on the results required without the time consuming need to launch client applications

SOLUTION

- Content Search is a fast web search within indexed measurement and descriptive metadata to have the complete context picture
- Continuous, scalable data integration and synchronization with near real-time index update
- Down-sampled mass data – allow fast preview with drill down to measurement points for all sources/formats

YOUR BENEFIT

✓ Increase of efficiency by providing a content search that shows the full context of the data
✓ Time saving through superior search function over all measurement data

DATA LAKE GATEWAY

CHALLENGE

- The need to perform advanced analyses such as statistical evaluations requires interfaces to data lakes
- Advanced analysis tools require large data file formats such as .avro or .parquet and a big data infrastructure that provides scalability
- The data within the data lake must be stored in a standardized way to ensure the independence of the analysis tools

SOLUTION

- The Data Lake Gateway converts the data online into require standardized big-data file types The module ensures that the latest data is always available on the data lake

YOUR BENEFIT

✓ Increased efficiency and quality through full automation conversion process
✓ Process improvement through online data conversion: The analyst can be sure that the latest data is available on the data lake
✓ Tool independence for the subsequent analysis is guaranteed by compliance with the BIG ASAM ODS standard

Data.CONNECT™ is a software solution consisting of independent modules that can be fully integrated into your software ecosystem and complies with the ASAM ODS standard. The solution is web-based and provides a harmonized user experience across all modules. A key benefit is that Data.CONNECT™ can be used completely independently of the hardware you use.

Data.CONNECT is also the core element of our AVL Lab Management™ software solution, which aims to optimize your testfield efficiency.

FIND OUT MORE

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