A-DB - The Big Data Easy

What is A-DB?

A-DB is a powerful, distributed database with great flexibility, ideal for use in mechanical engineering.

The solution is based on the Big Data solution Crate-DB.

Inspired by the familiarity of nature, Alphagate develops a unique UX/UI Design. With A-VIS this is poured into user- and process-oriented software.

Products

- A-App
- A-MR
- A-Line
- A-Med
- A-Hub
- A-DB
- A-Board
- A-VIS Framework

Services

- UX/UI Design
- A-Consult
- A-Marketing
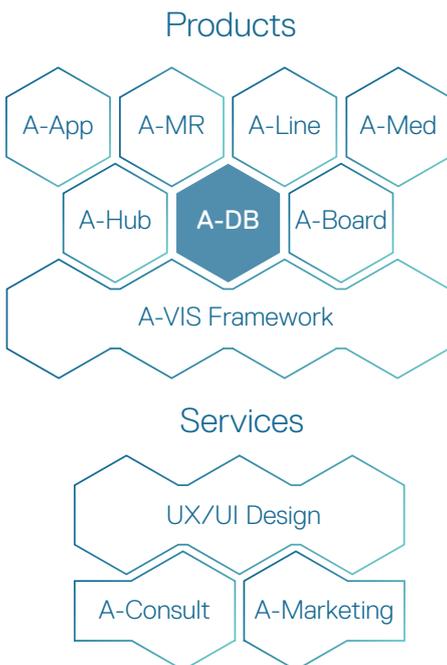
Alphagate designs and implements complete operating concepts for machine builders and manufacturers of medical devices. The individually created UX/UI Design reflects the requirements of the process and the best possible guidance and support for the operator of the device.

Alphagate uses its A-VIS SCADA software to create a unique software framework based on the operating concept. A-VIS offers connectivity to all major PLCs and data sources. Alphagate offers many additional enhancements and products that can be used seamlessly with the Alphagate solution, such as A-MR (Mixed Reality), A-DB (Big Data) and many more.

Big Data

The growing automation increases the possibility and necessity of collecting large amounts of data. The A-DB database solution integrated into A-VIS offers extensive and flexible options for storing, distributing and protecting large amounts of data in the company network or the cloud.

A-Board
Evaluation of machine data in an individual dashboard.

A-MR
Use of mixed reality for operation, maintenance and documentation.

A-Line
Optimal cooperation of machines from different manufacturers in one line.

A-App
Development of mobile applications.

A-Hub
A universal data logger for the efficient acquisition of machine data.

Human Ready.

Structure of A-DB

CrateDB is a distributed SQL database that is built on a NoSQL basis. It combines the familiarity of SQL with the scalability and data flexibility of NoSQL.

Customers often use CrateDB to store and query machine data. This is because CrateDB makes the handling of speed, volume, and variety of machine and log data easy and economical. Customers have reported that CrateDB captures millions of data points per second while querying terabytes of data in real-time - 20 times faster than their previous database and with 75% less database hardware.

Growing a database should be easy, just like CrateDB. With the automatic redistribution of data and a shared-nothing architecture, you can easily scale. Simply add new machines to create and expand a CrateDB cluster. You don't need to know how to redistribute data in the cluster because CrateDB does it for you.

This is A-DB

- 100% integration with A-VIS
- No backup or raid system required
- Distributed DB, runs on „light" hardware
- Low maintenance
- Simple and transparent license model
- Json und Blobs
- Real-time SQL
- Graphics Manager
- Item Manager
- Web application

Openness and flexibility

- Run CrateDB anywhere in your data center or in the cloud
- Connect to CrateDB from almost any language, SQL application or SQL BI tool
- Expand the CrateDB functionality by writing your plug-ins
- Deploy CrateDB as a container on Docker, Kubernetes or other systems

Distributed SQL queries
CrateDB's distributed SQL query engine has column field caches and a more modern query planner.

High availability
Even if something goes wrong in your data center, CrateDB continues to run. Automatic replication of data in your cluster ensures that errors do not interrupt data access. Also, CrateDB clusters are self-healing.

Real-time data acquisition
Analytical data is often loaded in batches with transaction locks and other overhead. In contrast, CrateDB eliminates locking overhead to allow massive write performance.

Backups
CrateDB can store incremental snapshots of your database in memory. Snapshots contain the status of the tables in a CrateDB cluster at the time the snapshot was taken.

Any data and BLOBs
CrateDB supports both relational data and nested JSON documents. All nested JSON attributes can be included in any SQL command. Also, CrateDB offers BLOB storage.

Time Series Analysis
With CrateDB, time series can be analyzed quickly and easily. These are automatic table partitions that can be queried, moved or deleted like virtual tables.

Spatial data queries
The location is important for many machine data to analyze. CrateDB can store and query geographic information with the types of geo_point and geo_shape.

Dynamic schemes
In contrast to many other SQL databases, CrateDB schemes are completely flexible. You can add columns at any time without affecting performance or downtime. This is ideal for agile development and rapid deployment.

Transactional
CrateDB is consistent but offers transaction semantics. CrateDB is consistent at the row level, so each row is either fully written or not. Thanks to the read-after-write consistency, we enable synchronously real-time access to individual data records immediately after they have been written.

Human Ready.