

RFID Hardware and Middleware

# Ha-VIS Middleware

## The bridge between hardware and software

AIDC systems are playing a greater role in many sectors and are increasingly popular in automation/machinery, transportation, and logistics applications. New possibilities for automating processes have been created by new technologies – such as UHF RFID – so that these technologies are now indispensable.

Integrating these systems presents a new set of challenges: a greater number of reported events must be controlled and a wide variety of different field-level recording devices must be properly connected. Harting's Ha-VIS Middleware provides the best tool to meet these challenges.

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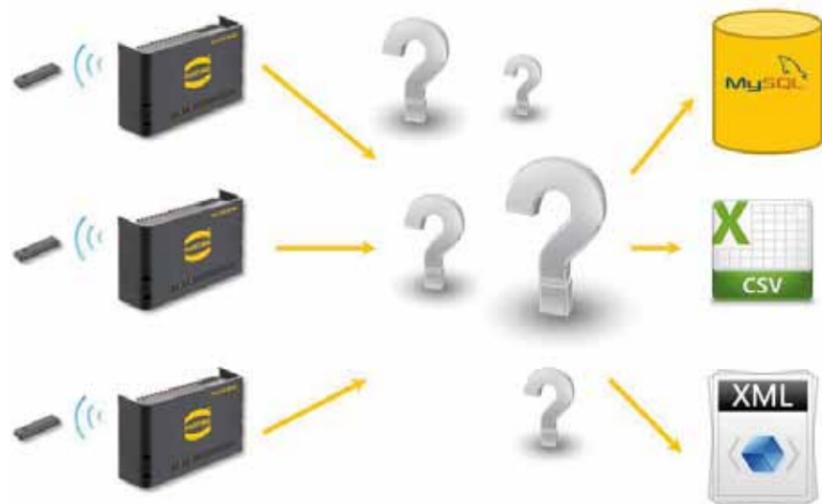
### Reader update means great effort

Field-level recording devices with proprietary protocols (such as RFID and barcode readers) must often be linked to software systems that are higher up on the automation pyramid. Each time the firmware is updated on such a reader device, the software interface must be retested to ensure that there are no negative side effects that could influence the entire installation. So when multiple installations in such a constellation must be maintained, the time and costs of such work can be surprisingly high. Furthermore, the training for the various proprietary protocols and for the different recording devices needs to be factored in.

These tasks must be mastered simultaneously to deciding how best to filter the key information from the increased flow of reported events. The critical events cannot be ignored, yet duplicate or redundant information which would just bloat the higher-level software systems must somehow be suppressed.

### How can data be collected efficiently?

Harting considers this chain of information in its entirety, with a holistic approach to AIDC systems and a focus on UHF RFID. The company offers the entire range of UHF RFID components and services: including transponders, RFID readers, software solutions and system integration. Ha-VIS Middleware is a versatile, modular software solution that links field-level recording devices to enterprise-level software systems. This application is based on a modern service-oriented architecture.



Which is the best way to get appropriate information from field level recording devices to linked software systems?

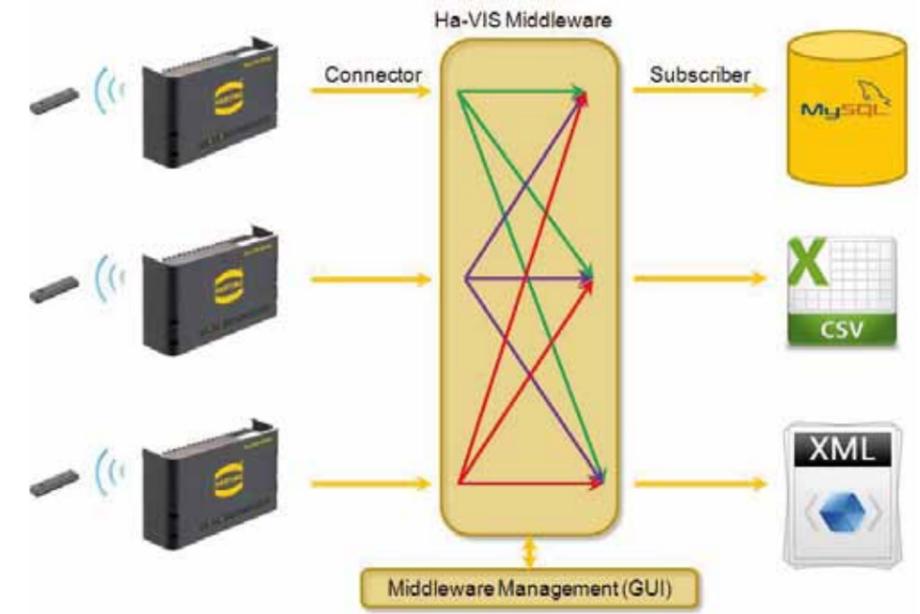
### The idea of modular construction

The functionality of the Ha-VIS Middleware is based on the requirements of the EPCglobal ALE 1.1 specification. The modular construction consists of a connection layer, a processing logic and a subscriber layer, from which the data is provided in an established format (such as a MySQL database). The connector is chosen depending on the particular field-level recording device that is connected. The subscriber that is used corresponds to the desired data output format. The modular design means that only those components need to be activate and pay for which are really needed.

### Keeping the focus on crucial information

The Ha-VIS Middleware forms the bridge between the field-level recording hardware and the

enterprise-level software. So the focus can remain on the true task at hand – processing mission-critical information. Harting's Ha-VIS Middleware is thus responsible for deciding how the data coming in from the reader devices (not only Harting UHF reader) should be prepared and packaged. When properly configured, the middleware compacts and filters incoming events and transponder readings. The condensed information is then provided to the higher-level enterprise software. It is, for example, possible to choose only to have newly recognized transponders report events, or have distinctly coded transponders report to corresponding data sinks. Or, data can be automatically saved to specific objects (such as transponders) after they are recognized in the system.



Ha-VIS Middleware filters and groups transponder information to provide subsequent applications

### Collecting data with Ha-VIS Middleware

The HARTING middleware's versatility makes it possible to avoid a great deal of tedious, individual programming work, because these tasks can be solved in a standardized way by a properly tailored Ha-VIS Middleware configuration.

A single software solution, with per-project configuration, can be used for multiple AIDC projects. This saves time and resources – especially during the subsequent maintenance of existing installations.

The modular design of the Ha-VIS Middleware is also used throughout Harting's entire AIDC portfolio. Whether for hardware, software or services, our customers can combine just the right products and components to create the optimal best-fit solution.

### Ha-VIS Middleware includes the following features:

- Simple integration of the Harting RFID reader
- Integration of RFID readers with LLRP interface
- Collection of all types of transponder information
- Filtering, grouping and aggregating transponder information
- Procedural sequences can be triggered manually, with digital I/Os, or with timers
- Cumulative data reports can be prepared in standardized or custom formats
- Centralized reader management
- Read, write and lock functionality for the RFID transponders
- Data (like passwords) can be imported from various sources such as caches, association tables, or random numbers



Das Firmenprofil von Harting finden Sie auf der Seite 211.