

White Paper

Improving Data Integrity with Auto Sync



AMS


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“Less than 50 percent of companies claim to be very confident in the quality of their data.”

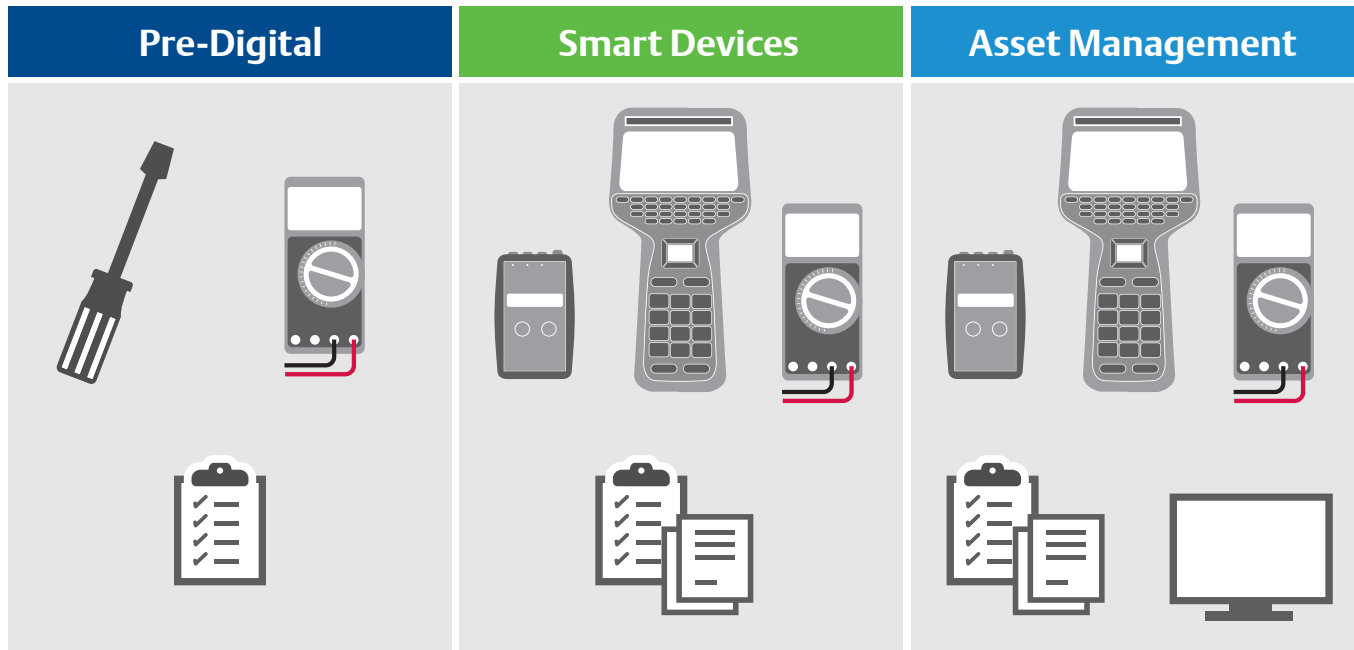
Marsh, Drowning in dirty data?, 2005

Organizations rely heavily on the records they keep in their asset management databases. In many plants, systems like AMS Device Manager are online all the time, allowing maintenance and operations personnel a constant, critical window into the health of intelligent field devices.

However, even with the ever-expanding reach of the Industrial Internet of Things (IIoT), there are still stranded devices, due to their age, location, or criticality rating. Moreover, even for critical, connected devices, there will always be situations where a technician needs to make repairs or run a diagnostic at the device, even in fully connected systems.

For many organizations, this collection of data at the device means a buildup of critical information that never makes it into the asset database. Because current handhelds have no method of enforcing authorization requirements—any technician with the handheld can make necessary changes to a field device—there is no guarantee that changes made in the field are reflected in the master information store. The only way to be sure this data is kept up-to-date is to perform a manual synchronization after every use. Yet, in the busy plant environment, it is easy for this synchronization to be overlooked indefinitely.

Over time, this failure to keep the master database updated leads to configuration drift, in which the configurations of an organization’s assets become more and more divergent due to manual, ad-hoc changes and updates made by technicians operating on devices in the field.



As device maintenance grew more sophisticated, data became more and more disconnected.

The Problem with Missing Data

Operators and technicians rely on critical device status data to perform their jobs. As more and more device health and configuration data fails to make its way back to the asset database, it becomes difficult to take full advantage of the system. A technician heading into the field to work on a device cannot be sure that the records in the database accurately reflect what will be seen at the device. On the other hand, operators who don't know the accurate status of plant devices cannot properly manage the processes they are responsible for. Further complicating plant operations, when asset management database information is unreliable, records required for compliance or internal troubleshooting take longer to find and compile, potentially resulting in fines or production outages.

Chasing the Communicators

For a technician to be able to deliver the best possible performance in the field, it is essential to provide the best possible equipment. If the technician is constantly required to surrender a handheld communicator to a shop supervisor so that device changes can be manually transferred to the database, that technician will often be forced to delay maintenance tasks while waiting for the communicator to become available again. This waiting game can quickly lead to maintenance task backlogs and rushed or overlooked work.

Requiring regular, manual transfer of data is not any easier on the shop supervisor. To keep the database up-to-date requires constant vigilance, with the supervisor tracking down the necessary handheld each time a change is made in the field. Once the correct handheld is in the shop, more time is required to manually and accurately transfer change data from the field to the asset management database. The time required to follow the constantly shifting devices and transfer their data to the database could be better spent on other tasks.

Moreover, manual transfer of data from handheld devices to the asset management database introduces the likelihood of errors in the data. Not only does this possibility increase risk of noncompliance issues, it also complicates troubleshooting. If change procedures are recorded incorrectly, it becomes much more difficult to diagnose production problems that stem from those changes.

While some plants have developed workarounds, such as requiring technicians to carry a laptop with asset management software when operating in the field, these workarounds are neither desirable nor practical. A laptop is clunky, non-Intrinsically Safe, and can't be managed with one hand—not an appropriate tool for the realities of the field.

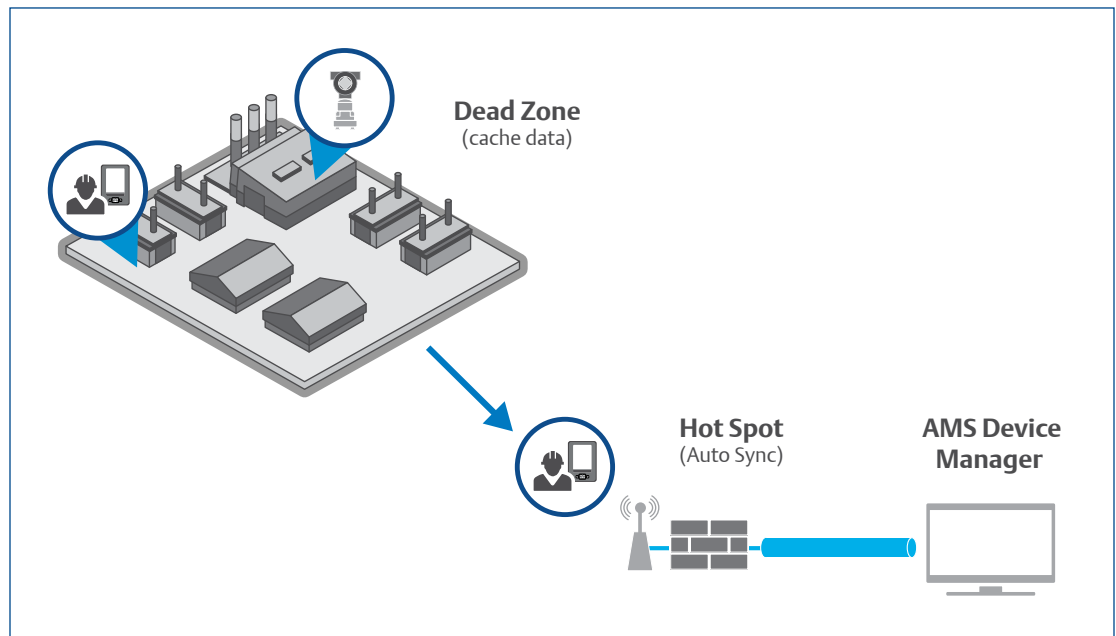
More Data with Fewer Tasks

If managing your organization's asset management database seems like a herculean task, there is a simple solution: **eliminate the task**. Emerson's AMS Trex Device Communicator introduces new Auto Sync technology that helps maintain data integrity in your asset management database without any technician intervention. With Auto Sync, the Trex communicator instantly delivers visibility of all field changes, automatically synchronizing any changes with AMS Device Manager. Every change that a technician makes in the field will be automatically recorded, timestamped, and uploaded, providing technicians with more time while simultaneously keeping the database and audit trail pristine and reliable.

Keep the Tool with the Technician

With Auto Sync, the Trex communicator automatically updates device changes made in the field. Any changes made with the Trex communicator are automatically logged and uploaded into the asset management database and audit trail. No technician intervention is necessary. Changes are applied to the database as soon as the communicator detects a Wi-Fi signal or USB cable connection.

Because the update process is entirely automated, technicians and supervisors do not have to intentionally deliver data for upload. Field technicians never need to surrender their communicators, helping them remain effective and efficient all the time. In addition, shop supervisors no longer need to waste time tracking individual units around the plant, and can spend time on other, more critical tasks, safe in the assurance that device configuration data is always up-to-date.



Easily connect data from the field to your database.

AMS Trex Does it for You

Using the Auto Sync between AMS Trex and AMS Device Manager takes human error out of database updates. Once the communicator is paired with the AMS Device Manager system, the unit will record all changes in the field. Whenever the Trex communicator is reconnected with the AMS Device Manager system, it will automatically update; no more missing data, no more inaccurate updates.

Even if a technician is operating on a stranded device in a dead zone, all changes are cached locally on the communicator, and as soon as it detects a connection again, the Trex communicator will automatically upload that data. If security is a concern, there are multiple connectivity options for uploading data, suiting each organization's unique needs.

Technicians can take advantage of Auto Sync without making any change to their daily work practices. Nobody in the plant needs to make sacrifices to protect data integrity. Technicians can have a robust, easy to manage tool for diagnostics and repair, and shop supervisors can maintain data integrity across all devices in the plant.

Keeping Track of the Timeline

Even in the best-managed shops, where technicians or supervisors regularly update the asset management database with manual uploads from handheld devices, most handheld communicators offer only a "data dump," which copies over all the data on the device, and timestamps it with the date and time of transfer. These timestamps offer very little actionable information in the audit trail in the event of an audit or unclassified problem. The longer the timespan between the use of the handheld and the transfer of the data, the more irrelevant the timestamp becomes in creating a timeline to try to connect changes in the field with problems in the process.

The AMS Trex logs and timestamps all changes as they occur, providing a clear audit trail with an accurate timestamp for every change made in the field. Organizations know not only what was changed, but when and by what device. When problems arise after changes in the field, technicians have an automatically constructed timeline of events to help correlate data. In addition, the greater reliability in the time stamping of technician activity provides easily accessible data for compliance audits.

Better Tools for Better Data Integrity

Auto Sync technology delivers the best in data integrity management while simplifying the day-to-day tasks of technicians and shop supervisors. Plants can have greater assurance of asset management database accuracy, combating configuration drift, without adding extra tasks (and in some cases, removing tasks) for field technicians and shop supervisors. In addition, plant management can rest assured that it has an accurate timeline of events and changes to all devices, online or offline, to simplify troubleshooting and compliance. Using the AMS Trex communicator, organizations can free technicians to focus on maintenance to decrease downtime while improving data integrity and overall plant efficiency.

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