

STAYING IN SYNC HELPS IMPROVE DATA INTEGRITY

Accurate data is key to process efficiency, so it needs to be reliably transferred to asset management systems. In order to overcome issues associated with manual transfer, Emerson incorporates Auto Sync into its latest handheld device communicator

Organisations rely heavily on the records they keep in their asset management databases. In many plants, systems 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 organisations, going out into the field to collect data from a device creates a situation where critical information never makes it into the asset database. Because current handheld device communicators have no method of enforcing authorisation 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 synchronisation after every use. But, in the busy plant environment, this is often overlooked.

Over time, this failure to keep the master database updated leads to configuration drift, in which the configurations of an organisation'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 more and more device health and configuration data fails to make its way back to the asset management database, it becomes difficult to take full advantage of the system. Technicians working on field devices cannot be sure that the records in the database accurately reflect what will be seen at the device. In addition, operators who don't know the accurate status of plant devices cannot properly manage the processes they are responsible for. Also, 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.

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, maintenance tasks may be delayed while waiting for the communicator to become available again, which can lead to backlogs. The process of manually transfer data is also time-consuming and requires constant vigilance from shop supervisors.

Moreover, manual transfer of data from handheld devices to the asset management database introduces the likelihood of data errors. This increases the possibility of non-compliance issues, and also complicates troubleshooting.

Some plants have developed workarounds, such as requiring technicians to carry a laptop with asset management software when operating in the field, but these are neither desirable nor practical.

ELIMINATE THE TASK

Managing an asset management database for a large plant can seem like a herculean task, but there is a simple solution: eliminate the task. The latest handheld device communicator, AMS Trex, from Emerson incorporates auto synchronisation (Auto Sync) technology that helps maintain data integrity in AMS Device Manager without any technician intervention. This functionality instantly delivers visibility of all field changes, automatically synchronising any changes with the main asset management system. Any change that a technician makes in the field is automatically recorded, time-stamped, and uploaded, providing technicians with more time, while simultaneously keeping the database and audit trail accurate and reliable.

With Auto Sync, no technician intervention is necessary and 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, field technicians do not need to surrender their communicators, helping them to remain effective and efficient all the time. In addition, shop supervisors no longer need to waste time tracking individual units



In addition to improving data integrity and simplifying the day-to-day tasks of technicians and shop supervisors, 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

around the plant.

Auto Sync technology takes human error out of database updates. Once the handheld communicator is paired with the asset management system, it will record all changes in the field. Whenever it is reconnected with the system, it will automatically update, which means no more missing data or inaccuracies.

If a technician is operating on a stranded device in a Wi-Fi 'dead zone', all changes are cached locally on the communicator, and as soon as it detects a connection again, the communicator will automatically upload that data. To help enhance security, there are multiple connectivity options for uploading data.

Even in the best-managed maintenance shops, most handheld communicators only offer 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 connect changes in the field with process problems.

The latest handheld logs and time-stamps all changes as they occur, providing a clear audit trail with an accurate timestamp for every change made in the field. Organisations 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, and the data is more accessible for compliance audits.

Auto Sync technology delivers greater 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.

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