CMX
CALIBRATION MANAGEMENT SOFTWARE

An introduction to smart calibration management.

CMX
Calibration Management Software
About CMX

A good calibration system reduces your workload because it carries out tasks for you faster, easier, more accurately and with better results than you could ever do by yourself. That's what CMX is all about. It's calibration management software that assists in documenting, scheduling, planning, analyzing and, finally, optimizing calibration work.

CMX's scalable technology and user configuration allows to integrate it easily into other systems for a one-of-a-kind calibration system that fits your specific needs completely.

Summary of Main Features

**Easy to use.** Explorer-like user interface facilitates navigation, and “drag and drop” functions make CMX calibration management software truly user-friendly.

**Calibration documentation is easy, efficient and accurate.** No more hand-written calibration documents. Have all your documentation in electronic format, CMX allows you to do so, automatically. It's easy, reliable and always accurate.

**Management of instrumentation anytime, anywhere.** CMX allows you to share a database, even if you have factories in different countries. The two different versions, CMX for workstation and CMX for server, make it possible.

**CMX communicates perfectly with calibrators.** Combine CMX with Beamex calibrators and you will have the most seamlessly connected calibration system in the world. A seamless connection between calibrators and calibration software means the ability to automate many of the pre-defined calibration procedures.

**Well-known technology means easy integration.** Thanks to scalable technology, CMX can be integrated to maintenance management systems (e.g. SAP/R3®, Maximo®).

**Flexible software that adheres to regulations.** In addition to being user-configurable, CMX also meets the needs of regulated companies. CMX is a safe choice because it adheres to regulations (cGMP, 21 CFR part 11).
Your Company Can Benefit from Using CMX

For companies with regulatory requirements, CMX offers
- Excellent system security
- Traceable history and documentation
- The use of Beamex’s Validation Services in implementation

For companies with a large amount of installed instruments, CMX offers
- Multi-user capability
- Calibrator communication
- Automated procedures

For companies with global operations, CMX offers
- Shared licenses
- Multi-lingual system
- System stability

CMX Is an All-in-one Calibration System
CMX is capable of tracking pre-defined, customized process instruments and calibration standards such as pressure, temperature, electrical, indicator, recorders, mass and many other types and quantities. Multidimensional plant hierarchy with uninstalled, installed and spare equipment may have multiple functions, multiple procedures and work orders, including equipment classification. After having performed a calibration task and work orders have been signed off manually or with Beamex’s communicating calibrators, CMX records the fully traceable calibration history together with timestamps, electronic signatures, record status, and a complete Audit Trail. As you can see, CMX truly is an all-in-one calibration system.
Easy-to-use Software

The explorer-type user interface allows you to navigate through an unlimited amount of records quickly and easily. CMX’s server database and plant hierarchy is easy to configure to suit the needs of both local and global corporations. Avoid extra work and select the best method for you for populating the database. For example, the database Wizard will guide you in creating new equipment or you can upload new equipment and calibration records from Beamex “smart” calibrators. It is also possible to populate an entire database from maintenance management systems, such as SAP and Maximo, using CMX. Finally, Beamex also offers services to convert and upgrade your existing calibration database to CMX.

Operating calibration management software has never been easier:

- The record explorer and logical plant hierarchy with centralized user operations make CMX very simple to learn and use.
- Move equipment by simply dragging and dropping it.
- Create workflows by dragging and dropping equipment to customized groups.
- Go paperless! Drag and drop work orders to the Beamex “smart” calibrator and forget pen and paper.
- Still need paper copies? Instead of dropping a work order to a “smart” calibrator, drop it to a local or network printer and get your personalized route list, calibration certificates, deviation reports, equipment stickers, etc.
- Context-sensitive, on-line help guides you whenever you need detailed assistance.
An Automated Calibration System Increases Productivity

CMX's automated alerts and documented calibration history, together with powerful database filters and versatile calibrator communication, reduce manual workload making calibration accurate and defect-free. The entire system is secured for unauthorized use and includes user profiles and system permission for each individual user group. Optional Change Management, Electronic Signature and Audit Trail will ensure the validity of data.

The Calibration History report allows you to view the results from previous calibrations and see how much the instrument settings have drifted during the calibration period. If the settings have remained the same between calibrations, you may extend the calibration period to save both time and money.

Automatic “out of tolerance” detection and pass/fail notification for calibration history plus automatic error calculation, assist in optimizing calibration procedures. CMX allows to take calibration metrology one step further; it automatically calculates calibration uncertainty for each point of measurement and allows to analyze it to determine if the current calibration accuracy is sufficient.

CMX Adapts to Your Existing Applications

The flexible, multidimensional plant structure offers unlimited hierarchy levels for creating an authentic model of your site. Equipment with work orders may be installed into any level and easily operated, moved, or disabled in a logical explorer-type tree. CMX even offers to automatically postpone calibration alerts for de-activated manufacturing units; this is one way it complies to your company's current production strategy. It is also possible to appoint a person, or group of persons, to be responsible for each hierarchy level. This helps to control the creation and organization of the workflow.

With CMX, you don’t have to change your own terminology, because CMX has an adaptable user interface. This means that the entire software may be modified to follow your company’s standards. You can also add and modify free user-definable fields and an unlimited amount of dynamic document links to an external file system. Thanks to these features, CMX is easily integrated into your existing applications.
All CMX documentation can be printed in electronic format (e.g. Word, Excel, PDF, HTML, JPG). These electronic documents can easily be shared via e-mail or published on the Internet. This enables sharing data with other systems.

How about adapting CMX document layouts to our company standards? Choose the CMX report design option to create completely new documents or to modify pre-designed document layouts according to the standards of your company. If your company’s resources are limited, Beamex’s Professional Services can provide some help. E-mail your specification and our professionals will do the rest.

Storing calibration documentation electronically in the CMX database is easy, safe and very efficient. In this way, you will minimize the amount of paper files. Making backups and searching and analyzing calibration documents is also much more quicker and easier when all documentation is in an electronic format. Storing documents in CMX adheres to regulations too!

Store your calibration documents easily and safely in the CMX database.

If you like, you can still easily print paper copies of all your calibration documents.
CMX Is Excellent for Regulated Companies

If 21 CFR part 11 is your challenge, then CMX is your solution.

Is your calibration system capable of withstanding a closer look? Are there regulatory requirements you must follow to the letter? If you are in the pharmaceutical industry, you must have a calibration system that meets all the regulatory requirements (cGMP, 21 CFR part 11). With CMX, you will have a complete, recorded history of your calibrations, which is fully traceable and auditable.

- An optional **Electronic Signature** is required when modifying any electronic records, not for just saving or approving calibrations.
- **Change Management** stores record history including timestamp, record author or editor, record status and a unique key to the Audit Trail. The Audit Trail may be accessed by simply clicking on the key.
- **Audit Trail** tracks detailed information such as record version number, timestamp, record author or editor, values before and after, which data fields have been added, modified or deleted, and, finally, user feedback explaining why the record has been modified. Audit Trail also saves illegal login attempts.

Beamex's **Validation Services** support the implementation of CMX.
CMX Can Be Integrated to Your Management System

The compatibility of IT systems is one of the most important issues today for almost any company. This concerns calibration management software as well: seamless integration into a maintenance management system is a must. Thanks to scalable technology, CMX can be integrated into your management system, such as SAP/R3®, Maximo® and others.

The limitations of having a maintenance management system (MMS) alone

Company plant hierarchy and work orders are stored into MMS, but it is not able to automate the calibration system, because it is not designed for calibration management and it cannot communicate with "smart" calibrators.

The Benefits of Integrating

Utilizing CMX with the maintenance management system will save time and money and increase company productivity by automating calibration work and preventing unnecessary work.

Integration into a management system in practice

- Plant hierarchy and all work orders for process instruments are created and maintained in MMS
- Calibration work orders are transferred to the CMX calibration management software, where calibration procedures, strategies and calibration standards are stored
- When calibration work has been performed, CMX sends acknowledgement of the calibration back to MMS
- All detailed calibration results are available in the CMX database
Maximize Benefits by Using CMX Together with Beamex Calibrators

"There is no other calibration system that talks to calibrators as well as Beamex’s does."

--Richard Salmon, Senior Instrumentation Engineer, Airbus UK

CMX and a Beamex calibrator, such as the MC5 all-in-one multifunction calibrator, is the perfect combination. It really pays to have a calibration system where the one and same company has developed both the calibrator and calibration management software. It's the best way to guarantee seamless connectivity; and with a seamless connection comes many benefits that will ultimately provide a major improvement in work productivity.

The benefits of combining CMX with Beamex calibrators are very practical:

- Major reduction of paperwork: even the work lists can be downloaded electronically onto the calibrator
- Documentation of calibration results onto a database is easy, safe and accurate
- No need to write calibration documentation by hand
- An increase in work productivity: the ability to do more calibrations in the same period of time as before
- A significant improvement in data accuracy and quality
Compare the Features and Benefits, and You Will Choose CMX

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<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
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<tbody>
<tr>
<td>Automated calibration system with pre-defined calibration procedures</td>
<td>• Adheres to regulations (cGMP, 21 CFR part 11)</td>
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<td>• Increases productivity</td>
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<td>• Improves data accuracy</td>
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<td>• Improves data quality</td>
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<td>• Speeds up calibration work</td>
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<td>• Minimizes human mistakes</td>
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<td>• Provides communication with calibration</td>
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<td>• Minimizes the amount of paperwork</td>
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<td>Calibration planning</td>
<td>• Improves efficiency in planning and scheduling calibration work</td>
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<td></td>
<td>• No need to remember when to calibrate, CMX will alert you</td>
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<td>• Calibration history tracking allows you to optimize calibration intervals</td>
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<td>Documentation center</td>
<td>• Minimizes the amount of time spent on creating traceable calibration documents</td>
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<td>• Powerful database filters reduce exploring time</td>
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<td></td>
<td>• Documentation design and format based on your company's needs and standards</td>
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<td>• Calibration data is safely and easily stored electronically in the CMX database</td>
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<td>Well known and scalable technology</td>
<td>• A safe choice from the IT department's point of view</td>
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<td>Modern user interface</td>
<td>• An increase in system performance and speed</td>
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<td>• Greatly reduces network traffic and the load on client resources</td>
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<td>• Management of instrumentation can be done anytime, anywhere</td>
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<td>• Excellent support for different database platforms: MSDE, SQL Server, and Oracle</td>
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<td></td>
<td>• Easy to learn and use</td>
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<td>Seamless integration into other systems</td>
<td>• Integration into management systems (e.g. Maximo®, SAP/R3®)</td>
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<td></td>
<td>• Reduces the amount of unnecessary work</td>
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<td>Software Service Agreement</td>
<td>• Free version upgrades keep the system up to date</td>
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<td>Professional Services</td>
<td>• Quick and easy implementation of CMX</td>
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<td>• System start-up together with training</td>
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<td>• CMX validation package and on-site validation assistance</td>
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<td>• Help Desk services provide support when CMX is in use</td>
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Professional Services

Implementation and Training
Beamex provides worldwide services for CMX implementation and training. This way, you are able to have CMX up and running in no time. You also learn about the capabilities of CMX, how to use it and how your organization will benefit the most from it.

Software Service Agreement (SSA)
Software Service Agreement (SSA) provides you with valuable benefits after your CMX is in use. Free upgrading keeps the system constantly up to date. SSA also provides you with Beamex’s Help Desk services.

Validation Services
Beamex’s Validation Services provide support for pharmaceutical companies in the implementation of CMX.

Integration Services
Standard integration packages are available for integrating CMX into your management system. In addition, customized versions can be made to meet your specific needs.
Portable calibrators
Workstations
Calibration software
Professional services
Industry solutions

For more information, please visit www.beamex.com or contact info@beamex.com