SOFTWARE AND SERVICES

Calibration software, system supply projects and services, software support and maintenance programs
Beamex is a technology and service company that develops, manufactures and markets high-quality calibration equipment, software, systems and services for the calibration and maintenance of process instruments. The company is a leading worldwide provider of integrated calibration solutions that meet even the most demanding requirements.

**Paperless calibration**

The paperless calibration system comprising Beamex documenting calibrators and calibration software form an integrated and automated calibration system for improving quality and cutting costs.

**Weighing instrument calibration**

A scale must also be calibrated on a regular basis. Beamex CMX is an ideal tool for performing weighing instrument calibration.
Beamex CMX calibration software
Plan, manage and document all your calibration information efficiently and safely using Beamex CMX calibration management software.

System supply projects and services
Beamex provides all the services required for the efficient supply, implementation and maintenance of a calibration management system.

Software support and maintenance programs
Maintain reliable operations and benefit from innovation to maximize return on your software investment.
A paperless calibration system comprising documenting calibrators and calibration software improves quality and cuts costs. The business benefits are significant for companies that use software-based calibration systems. The entire calibration process – from initial recording of calibration data to historical trend analysis – will take less time, whilst virtually eliminating mistakes and manual errors.

**RELATED PRODUCTS**

- Beamex MC6 calibrator
- Beamex MC5-IS calibrator
- Beamex MC4 calibrator
- Beamex CMX Light calibration software
- Beamex CMX Professional calibration software
- Beamex CMX Enterprise calibration software
- Beamex Business Bridge
Traditional paper-based systems

While using a manual, paper-based system requires little or no investment in new technology or IT systems, it is extremely labor-intensive and means that historical trend analysis of calibration results becomes very difficult. In addition, accessing calibration data quickly is not easy. Paper systems are time consuming, they soak up lots of company resources and manual (typing) errors are commonplace. Dual effort and the re-keying of calibration data into multiple databases become significant costs to the business.

Business benefits of paperless calibration

The business benefits of a paperless calibration system are significant. The entire calibration process – from initial recording of calibration data to historical trend analysis – will take less time, virtually eliminating mistakes and manual errors, which results in higher quality of gathered data. In turn, this means that operators, engineers and management will have more confidence in the data, particularly when it comes to plant audits. In addition, this greater confidence in calibration data leads to a better understanding and analysis of business performance and KPIs (particularly if the calibration software is integrated into other business IT systems such as a CMMS) leading to improved processes, increased efficiency and reduced plant downtime.
THE CALIBRATION PROCESS

1. The Beamex CMX alerts what needs to be calibrated and when
   - Easy, fast and efficient
   - No need to search archived paper files

2. Download calibration procedures and instructions from the software to the MC6
   - Fast procedure
   - No pen, paper or notepads needed

5. Create, store and manage calibration information safely and efficiently with the software
   - All calibration data is stored and managed in the CMX database
   - Calibration certificates, reports and labels in electronic format, on paper or both
   - All documentation in the CMX is auditable and traceable (e.g. ISO 17025, cGMP, 21 CFR Part 11)

Integration to a maintenance management system
   - Plant hierarchy and work orders are stored in ERP/CMMS (e.g. SAP, Maximo) and from there transferred to the CMX, which stores all calibration procedures, standards and results
   - When calibration work has been performed, the CMX sends acknowledgement of the calibration back to ERP/CMMS
Perform instrument calibration and data collection with the MC6

- The MC6 replaces many individual measurement devices and calibrators
- Automated calibration is fast

Upload calibration results to the software

- Automatically download calibration results back to the software
- Data transfer is fast and efficient, writing mistakes are eliminated
Weighing instruments are typically very accurate, but they still need to be calibrated frequently to ensure that measurement values and uncertainty meet requirements. Weighing instruments as tools for measuring are highly common in industrial environments. Accurate weighing is required whenever invoicing and production depend on the precise weight of masses.

**RELATED PRODUCTS**

- Beamex CMX Professional calibration software
- Beamex CMX Enterprise calibration software
Beamex’s solution for weighing instrument calibration

The Beamex CMX calibration software includes eccentricity tests, repeatability tests, weighing tests, and minimum capability weighing tests to assist in complying with all calibration requirements. The CMX also stores other compulsory information, such as traceability to used weight sets and weights, environment temperature before and after calibration, environment pressure and humidity, date and time, as well as information about who performed the calibration. All of this information can be entered into the PC at the workstation or a mobile Pocket PC (optional feature). The CMX also automatically produces traceable and auditable calibration certificates of all performed calibrations. The CMX calculates combined standard uncertainty and expanded uncertainty at calibration of the weighing instrument.

SUPPORTS VARIOUS GUIDELINES AND STANDARDS, SUCH AS:

- EURAMET cg-18 Guidelines on the calibration of non-automatic weighing instruments
- OIML: EN 45501 + AC
- NIST: Handbook 44 – 2007

SUMMARY OF THE BENEFITS:

- Perform various different tests to comply with all weighing instrument calibration requirements
- Store all compulsory information
- Produce automatically traceable and auditable calibration reports
- Pocket PC interface (optional feature)
Why use software for calibration management

Every plant has some kind of system for managing calibration operations and data. There are several different ways for managing calibrations and they differ greatly in terms of quality, efficiency, accuracy of data, cost-effectiveness and level of automation. A plant can overcome the typical challenges related to calibration and improve the quality, productivity and cost-effectiveness of its entire calibration process by using software specifically designed for managing calibrations, such as the CMX calibration software.

Maximize quality and productivity of calibration asset management with Beamex CMX calibration software

- Plan & schedule calibrations
- Manage & store all calibration data
- Analyze & optimize calibration interval
- Easy and efficient to use
- Explorer-type user-interface
- Calibrator communication/manual entry
- Pocket PC interface available
- Automatically produce reports, labels & certificates (electronic format/paper)

Typical challenges related to managing calibrations:

- Huge number of instruments requiring calibration
- Planning and scheduling calibrations is a challenging and labor-intensive task
- Documentation is necessary, but it takes time and typing errors are common
- Calibration data should be accessible for audits
- Calibration interval planning and analysis
<table>
<thead>
<tr>
<th>CMX PRODUCT FEATURES</th>
<th>LIGHT</th>
<th>PROFESSIONAL</th>
<th>ENTERPRISE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positions/tags in the database</td>
<td>300</td>
<td>1000</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Optional 5000 positions/tags in the database</td>
<td></td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Optional 10 000 positions/tags in the database</td>
<td></td>
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<td>o</td>
</tr>
<tr>
<td>Unlimited number of positions in the database</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Single workstation license</td>
<td></td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Floating server licenses</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Networking/multi-user support</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Position/tag and device database</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Position/tag and device sets</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Calibrator database</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Wizard for database population</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Communication with Beamex calibrators</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Manual data entry</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Average and uncertainty calculation</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Plant structure</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>User accounts, groups and permissions</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Pickup lists</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Saveable filters</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Standard paper reporting templates</td>
<td>9</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Importing/exporting paper reporting templates</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>SQL server express version</td>
<td>o</td>
<td></td>
<td>o</td>
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<tr>
<td>CMX database manager tool</td>
<td>o</td>
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<tr>
<td>Oracle database support</td>
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<tr>
<td>Communication with 3rd-party calibrators</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Configurable user interface</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>History trend</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Report design</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Pocket PC interface</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Change management</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Weighing instrument support</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Lightweight directory access protocol (LDAP)</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Integration capability to various ERP/CMMS/other third-party systems</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Factory type validation – URS/FDS/IQ/OQ/PQ</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>QD3 database conversion (1 database)</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Possibility to import data from third-party systems to CMX</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Availability of report design services</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Availability of on-site validation services</td>
<td>o</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>● = Standard feature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>○ = Optional feature</td>
<td></td>
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</tr>
</tbody>
</table>

Note: Certain capabilities and functions listed above may require purchasing of professional services from Beamex.
Benefits of using the CMX

Improve every phase of the calibration process

<table>
<thead>
<tr>
<th>PLANNING AND DECISION-MAKING</th>
<th>ORGANIZING CALIBRATION ACTIVITIES</th>
<th>PERFORMING CALIBRATIONS</th>
<th>DOCUMENTATION</th>
<th>ANALYSIS AND PROCESS IMPROVEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan procedures and calibration strategies</td>
<td>Create calibration instructions that guide the technician through the calibration</td>
<td>With documenting calibrators, calibration results stored in the calibrator’s memory can be automatically uploaded back to calibration software</td>
<td>Produce reports automatically</td>
<td>Analyze what is the optimal calibration interval with history trend function in the calibration software</td>
</tr>
<tr>
<td>Manage all calibration assets</td>
<td>Download calibration instructions to a documenting calibrator</td>
<td>No typing errors</td>
<td>All calibration data is stored in the database and can be signed electronically</td>
<td>All calibration records are easily accessible for audits</td>
</tr>
<tr>
<td>Maintain position, device and calibrator databases</td>
<td>No need for pen and paper</td>
<td>Print calibration certificates, reports and labels in electronic format, or on paper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automated alerts for scheduled calibrations</td>
<td></td>
<td>Documentation meets regulatory requirements (e.g. ISO 9001, ISO 17025, FDA, GMP/GAMP, 21 CFR Part 11)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BUSINESS BENEFITS OF USING THE CMX

<table>
<thead>
<tr>
<th>REDUCE COSTS</th>
<th>IMPROVE QUALITY AND REDUCE RISK</th>
<th>INCREASE EFFICIENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paperless calibration management</td>
<td>Regulatory compliance (e.g. ISO, FDA, GMP/GAMP, 21 CFR Part 11)</td>
<td>Streamline and automate the entire calibration process, reduce time spent from start to finish</td>
</tr>
<tr>
<td>Analyze whether you need to increase or decrease calibration frequency – good instrument performance justifies reduced calibration frequency</td>
<td>Create, manage and store calibration data safely and efficiently</td>
<td>Replace manual procedures with an automated and validated process</td>
</tr>
<tr>
<td>No more typing errors when documenting calibration data</td>
<td></td>
<td>Cut production down-time</td>
</tr>
</tbody>
</table>
What the customers say

- **81%** of CMX calibration software customers state that using Beamex products has resulted in cost-savings in some area of their operations.

- **89%** of CMX calibration software customers state that using Beamex products has improved the efficiency of their calibration procedures.

- **87%** of CMX calibration software customers state that using Beamex products has improved the quality of their calibration system.

Beamex customer survey 2012

Customer testimonials

“The connection to SAP allows us to integrate the system of work instructions, planning and programming of tasks with calibrations. We can now say that we have a calibration management system which is simple, efficient and adapted to our particular needs and requirements.”

Juan José Mora Mora, Head of Instrumentation Maintenance Dept., CEPSA Química, Spain

“Our focus was to improve our calibration methods and efficiency by producing calibration certificates auto-matically. Once trained and confident, the CMX system proved to be invaluable in helping us to achieve our target in the first year of use.”

Dave Wright, Senior Instrument Technician, Croda Chemicals Europe, UK

“One of the most important aspects of implementing the calibration system was the need to meet regulatory requirements and audits related to CO₂/NOₓ emissions. The Beamex solution comprising CMX calibration software and MC5 calibrators meets these requirements.”

Ed de Jong, Instrument Maintenance Engineer, Shell Nederland Raffinaderij, The Netherlands

“Before purchasing CMX we had to record calibration results on paper first, and then in a document on our network. Using CMX to directly download the results to a computer, enables us to save time (and money) by eliminating double entries of calibration results.”

Peter Vandenberg, Senior Technical Officer Instrumentation & Controls, AGL Torrens Island Pty Ltd, Australia
Automated calibration management procedures

The CMX automates calibration management procedures in various ways, including:

- Automated alerts of scheduled calibrations
- Automatic downloads of instruments and calibration procedures to calibrators
- Downloaded procedures guide the technician through the calibration
- Calibration results are automatically uploaded from calibrators back to calibration software
- Uncertainty calculation of traceable calibration results
- Calibration documents are prepared – automatically

Meeting regulatory requirements

ISO 17025, cGMP and 21 CFR Part 11
The CMX stores and documents calibration information in auditable and traceable format by meeting regulatory requirements such as ISO 17025, cGMP and 21 CFR Part 11.

Change management and audit trail
The change management function in the CMX complies with FDA requirements (21 CFR Part 11 Electronic Records and Electronic Signatures). Change management stores record history including timestamp, record author or editor, record status and a unique key to the Audit Trail. Audit Trail tracks detailed information of what data fields have been added, modified or deleted, by whom, when and why. Audit Trail also saves illegal login attempts.

Communication with documenting calibrators

Beamex calibrator support
The CMX offers built-in communication with Beamex documenting calibrators for downloading and uploading calibration information. It’s fast and efficient and there’s no need for pen and paper.

Third-party calibrator support
The CMX also supports communication with many other major field calibrator brands.

Optimize calibration interval

Reduce calibration costs and improve quality by planning the optimal calibration interval for instruments.

- Every calibration event is stored into the database; the history trend is created automatically.
- Analyze and determine the optimal calibration interval for instruments.
- Make decisions regarding increasing or decreasing the calibration interval.
- Graphical display of the history trend.
- Make conclusions concerning the quality of the instruments.

Documentation

Paperless calibration data management
Storing documents in the CMX database is easy, safe and efficient. The CMX comes with a selection of ready-made standard calibration reports and certificates. All these reports can be saved in different electronic formats (e.g. Word, HTML, PDF, Excel).

Paper documenting
If you want to print and store paper copies of calibration certificates, reports, route lists and other documents, just simply drag and drop a work order to a local or network printer. You can also link or store external documents in the CMX.

Adapts to your needs

- A database between 300 and unlimited positions (CMX Light/CMX Professional/CMX Enterprise)
- Installed into a single workstation or onto a floating server
- Report design and ability to customize user interfaces
- Pocket PC interface allows manual entry of data on site, download of work orders, and testing of procedures and routines
- Multilingual

Easy to use

Explorer-like browser interface
The explorer-type user-interface allows you to navigate through calibration records quickly and easily.

"Drag and drop" functionality
In CMX, you can move equipment by simply dragging and dropping it.
System supply projects and services
Choosing the right calibration software system with the right functionality and technical specifications is typically not enough. Once the calibration software has been chosen, a new calibration software system may require integration into other systems and customer-specific configuration. Existing data from old systems may need to be imported to the new system. The new software system needs to be tested and installed for production use. Finally, people need to be trained to use the new software. To maximize the return on your investment and minimize risks related to the selection and implementation of a new calibration software system, it is essential to choose the right partner to perform the above-listed tasks. Beamex is the right partner from large-scale software supply projects to one-day training sessions.

Beamex provides all the services required for the efficient supply, implementation and maintenance of a calibration management system.

Beamex – an experienced supplier of software systems

Beamex has an extensive background and long-standing experience in executing customer-specific projects that include provision of software systems and related services. Customer-specific software service projects are required to provide the types of calibration software solutions and professional services, where the customer has specific requirements and when Beamex’s standard software and/or professional services packages with fixed specifications and fixed scope of service do not fulfill the customer’s requirements.

Typical services provided in connection with system supply projects

The typical services performed by Beamex in connection with a software supply project relate to:

- System integration and connector development
- Software configuration and enterprise solutions
- Report design and user-interface configuration
- Database conversion
- Training
Project phases

Larger supply projects, especially, such as customer-specific enterprise solutions, may be divided into several phases. The typical phases of a supply project are:

1. Specification/definition of the scope of work (SOW)
2. Development/implementation
3. Testing
4. Installation, verification and training

Larger and more complex projects may even be divided into two separate projects, whereby the first project involves specification and SOW and the second involves the actual development project based on the specifications arising in the first project.

Typical deliverables

Components typically included in a system supply project delivery:

1. Beamex CMX software license (existing/purchased);
2. Software license for customer-specific software components (e.g. Beamex Business Bridge);
3. Provision of services, such as software configuration, consulting, installation, project management and training (i.e. supply project);
4. Relevant documentation, such as user guides, project plan and work progress reports; and
5. Support and maintenance contract for the software system.

Project framework and documentation

Documentation is essential, especially in large and complex customer-specific software system projects. Important project documentation includes:

1. Offer / supply agreement
2. Scope of work (SOW) / specifications
3. Project plan
4. Project reports
5. Minutes of Meetings of the project steering group (if such is established)
6. Additional commercial and legal terms

Before a system supply project even starts, it is important to consider and agree on, typically in the supply agreement or project plan, several additional items that contribute to the successful implementation of a project and may also influence the cost and schedule for executing the project. These include:

- **Purpose**: the common target of the project
- **Roles and responsibilities**: defining the tasks and duties of both parties, as system supply projects are co-operative by nature
- **Project team, management and steering group**: contact persons, project managers, other key people, their tasks and duties as well as decision-making procedures and authority
- **Change management procedures**: mechanisms for making and approving changes, related to the Scope of Work for instance
- **Deliverables**: software, services, documentation and other deliverables related to each project phase
- **Schedule**: all milestones for the performance of services and delivery of all deliverables
- **Testing and acceptance**: principles defined for each phase of the project as well as the project completion
- **Presumptions and limitations**: project risks as well as tasks and duties not included in the project defined
Integrate calibration software with your ERP and maintenance management system (CMMS).

For process manufacturers today, having a reliable, seamlessly integrated set of IT systems throughout the plant, or multiple sites, is critical to business efficiency, profitability and growth. Beamex CMX calibration software can be integrated into computerized maintenance management systems, such as Maximo, SAP or Infor EAM or your company’s own, in-house software for maintenance management. Beamex offers professional service in the execution of system integration projects.

The benefits of integration

Integrating CMX with a CMM system means that plant hierarchy and all work orders for process instruments can be created and maintained in the customer’s CMM system. Calibration work orders can be easily transferred to CMX calibration software. Once the calibration work order has been executed, CMX sends an acknowledgement order of this work back to the customer’s CMM system. All detailed calibration results are stored and available on the CMX database.

When the integration is finished, the customer has a system that saves time, reduces costs and increases productivity by preventing unnecessary double effort and re-keying of procedures in separate systems. When there is no need to manually re-key the data, typing errors are eliminated. CMMS integration enables the customer company to automate its’ management with smart calibrators. This improves the quality of the entire system.

System integration: Beamex Business Bridge

A standardized, but configurable solution for connecting Beamex CMX calibration software to an ERP/CMMS system.

What is Beamex Business Bridge

Beamex Business Bridge is a standardized, but configurable software solution for connecting the Beamex CMX calibration management system to an ERP/CMMS system, such as Infor EAM or SAP PM. The main purpose of the Business Bridge software solution is to provide a transfer channel for sharing instrument, work order and basic calibration data between the systems.

Why integrate software systems

- **Minimize duplicate work**
  Productivity may increase significantly due to system integration, as data needs to be entered and kept up to date in just one place, instead of manually re-keying the data into two or more separate systems.

- **Reduce human typing errors to a minimum**
  Since data needs to be entered only once, human typing errors related to manual re-keying of data are minimized.

Beamex Business Bridge: key features

- Plant hierarchy and instruments are created and maintained in ERP/CMMS.
- Calibration work orders are transferred to the CMX calibration management system for calibration.
- When calibration work has been performed with CMX, the work order acknowledgement is sent back to the ERP/CMMS system.
- CMX stores the entire calibration history and produces fully traceable calibration records.
Benefits of a standardized solution

• **Less need for customer-specific software development**
  A system integration project requires less customer-specific software development work due to the standardized solution. This means quicker and more reliable delivery.

• **Operational reliability, added functionality**
  A standardized solution means availability of long-term software maintenance contracts with regular software updates for software evolution and helpdesk services.

• **Managing lifecycle risks**
  A standardized software solution, for which long-term support and maintenance contracts are available, decreases the IT system lifecycle risks.

ERP/CMMS requirements

• CMMS integration interface or data exchange module is required
• CMMS specialist must create the required configurations in CMMS

With regards to Infor EAM, Beamex is also able to offer the delivery of the Business Bridge software solution as a turnkey project, where Beamex takes the responsibility also for the above-mentioned ERP/CMMS configuration tasks.
## BUSINESS BRIDGE: FEATURES

<table>
<thead>
<tr>
<th>EQUIPMENT IMPORT</th>
<th>WORK ORDER IMPORT</th>
<th>WORK ORDER EXPORT</th>
</tr>
</thead>
</table>
| Instruments are created or updated into the CMX database depending on existence there | Requires Position in CMX db  
  - The key may also contain position or device ID if several instruments have the same work order number | Triggers for WO export  
  - Saving the calibration result  
  - Saving the calibration result and result approval |
| Business Bridge is able to create and update:  
  - Positions with or without functions and/or devices  
  - Free devices with or without functions  
  - Functions in positions and devices  
  - Plant Structure, node description and activity without Position information  
  - CMX Audit Trail | Create or update work order | CMX Interface sends work order/calibration result summary message to the CMM system when the work order is completed in the CMX database |
| Business Bridge is able to link and unlink:  
  - Devices to and from positions  
  - Devices can be replaced in position, if the functions match  
  - Devices can be moved from position to another, if the functions match | No more typing errors when documenting calibration data | |
| Business Bridge supports  
  - Multiple* devices in one position  
  - Multiple* functions in one device  
  (*) Function abbreviation must be unique on position/device level | | |

SOFTWARE AND SERVICES
Software implementation
Maximize the return on your calibration investment

Beamex’s installation services ensure that your calibration system will be up and running in no time. Installation is an essential and integral element of an investment made into a calibration system. Beamex’s service team offers high-quality and efficient installation services for various products and complete calibration systems.

Availability of installation services
Installation services are available for:
- Beamex CMX calibration software
- Database installations
- CMX integration into a management system (ERP/CMMS)
- User-specific configuration of the CMX (e.g. certificates, user-interface)
Validation

Validation services

Beamex’s validation services provide support for pharmaceutical companies in the implementation of Beamex CMX calibration software.

Factory type validation

Factory type validation for CMX defines the requirements and relevant tests for the software to ensure product quality. Factory type validation confirms that the product functions as described in the Beamex functional design specification (FDS). Factory type validation includes IQ, OQ and PQ tests as well as a validation report. For software upgrades, an example risk assessment report is available and a software release note that describes the new and/or improved functionality.

Why upgrade to Beamex CMX

• To install modern calibration software that supports new database platforms
• To improve efficiency of calibration management with added features
• To prepare calibration schedules and documentation quickly and efficiently
• To plan optimal interval(s) for performing calibrations
• To dramatically improve the quality and accuracy of calibration records
• To seamlessly communicate with documenting calibrators

Database conversions

Get an easy upgrade to a modern calibration software system

Are you using MS Excel or MS Access for managing calibration data? Or some older calibration software, which does not support modern operating systems? We are offering you a great opportunity to upgrade your existing calibration database or software to the modern and efficient Beamex CMX calibration software. Upgrading a database system has never been easier! Let the Beamex professional services team convert your existing calibration database(s) to the Beamex CMX calibration software and have your calibration system up and running in no time!

Upgrading the system is easy and efficient

Beamex offers a range of services for database conversion and database migration

• Have the new calibration system up and running in no time
• Examples of databases from where the data can be migrated: Beamex QM6, Beamex QD3, MS Excel, MS Access, third party calibration software

Validation workbook

If you already have a dedicated validation team, Beamex can offer a standard validation workbook.
Report design and user-interface configuration

The Beamex professional services team offers services for designing customized calibration report templates in Beamex CMX calibration software to meet your specific requirements.

In addition, the CMX user interface can be modified to meet company-specific requirements, for instance in terms of terminology.

Training courses

Training ensures that both the users of the system and the managers obtain the necessary skills to use the calibration system to its fullest potential. The training courses combine hands-on workshops with classroom lectures and demonstrations. Training increases your knowledge and productivity. It can be provided by either a Beamex professional or one of Beamex’s international partners able to offer courses in your local language.

Training services are available for:

- Beamex calibration software
- General calibration and instrumentation

Training typically involves the following:

- Duration: from a few hours to a few days, depending on the scope of training
- Starts with demonstrations by the instructor
- Hands-on, supervised learning
- Questions & answers sessions
- Training material provided in written form also
- Training certificate after the workshop is completed

Choose the training method that best fits your needs:

- Online webinars
- On-site individual or group training courses
- Training courses at Beamex premises
- Standard training packages vs. customer-specific programs
Software support and maintenance programs
A software support agreement is an essential part of an investment made into calibration software. In fact, the purchase of calibration software should not even be taken into consideration without first considering software maintenance and support issues. The larger the calibration investment is and/or the longer the customer expects to have the calibration system operational and in use, the more important it is to consider investing in a support agreement.

What is a software support agreement? A software support agreement is typically a fixed fee, fixed-term or automatically renewed service agreement where the customer is entitled to receive specified services for specified software during the term of the agreement. The services typically include provision of software updates and helpdesk support.

Why a software support agreement

Unlike many hardware products, software products are not independent and isolated, as they are always used in an IT environment. Calibration software is no different. Since operational and IT environments evolve and change over time, the calibration software product must also evolve and change to remain in operational condition. Furthermore, as a supplier of calibration software, Beamex’s R&D department is constantly developing and improving the functionality of the software, and the results of the R&D work are available to the customer through software updates.

In brief, the software support agreement assists you in maintaining reliable operations and benefiting from innovation to maximize return on your software investment.

- **Maintain reliability**
  Regular software updates ensure that your calibration software adapts to changing IT environment requirements. Furthermore, helpdesk support provides quick access to assistance if problems arise.

- **Benefit from innovation**
  With the support agreement, you will be able to benefit from the product development work at the Beamex R&D department, as the Beamex R&D continuously works to improve the performance and functionality of the software. The results of the development are available to the customer through software updates.
# BEAMEX SOFTWARE SUPPORT OFFERINGS

<table>
<thead>
<tr>
<th>BEAMEX SOFTWARE SUPPORT OFFERINGS</th>
<th>STANDARD SUPPORT OPTIONS</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td><strong>Object of support service</strong></td>
<td>Standard software products and components</td>
<td>Beamex CMX Professional and/or CMX Enterprise, Business Bridge.</td>
</tr>
<tr>
<td></td>
<td>Customer-specific software components</td>
<td>E.g. customer-specific system integration or software configuration.</td>
</tr>
<tr>
<td><strong>Scope of services</strong></td>
<td>Software updates</td>
<td>If software updates are included in the support agreement, the customer will receive new software versions and revisions made generally available for use by several customers. The software updates may rectify errors in the then-current revision of the software, improve software performance and contain new and/or improved functionality. Software updates are available as a service for standard software products and customized software components.</td>
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<tr>
<td></td>
<td>Remote helpdesk</td>
<td>If problems arise when the software is in use, Beamex’s remote helpdesk support provides error diagnostic services and allocates resources in aiming to repair the errors. The standard remote helpdesk services are available in English at minimum, and accessible by phone, fax or email. The support service is available during the service hours specified in the support agreement.</td>
</tr>
<tr>
<td><strong>Support term options</strong></td>
<td>Fixed term 1-, 2- or 3-year agreement</td>
<td>The support agreement can be either for a fixed period or it can be automatically renewed.</td>
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<tr>
<td></td>
<td>Automatically renewed agreement</td>
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<tr>
<td><strong>Access to support</strong></td>
<td>Phone</td>
<td>Standard remote helpdesk services are accessible by phone, fax or email.</td>
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<td>Email</td>
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