# HEIDERING 2016

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## How to build a calibration workshop

Improving power plant performance with a modern calibration process

## Customer success stories

Alabama Power, US Essar Oil Ltd, India Eurotherm, Germany

beamex

### Calibration World • SPRING 2016

## CEO's Letter

This is my first letter as CEO of Beamex Group and I'm struggling to fit everything I want to say into this short page, but I'll give it a try. (Those of you who already know me also know that I'm a man of many words...)

Some of you readers have most likely seen or received information about the change of CEO at Beamex, and if not, you will read about it in this magazine. However, here's a short summary: after a fabulous 17-year career as CEO of Beamex, the time came for Raimo Ahola to take his planned retirement, and as part of the succession plan I've been in the driving seat since 1st August. I've been with Beamex for 9 years, so even if the CEO role is new for me I'm already intrinsically "Beamex green".

In this issue of the magazine you'll read about our 40th birthday party, which we held in August at our HQ in Pietarsaari. It was a great party that we'll remember with a smile for years to come. The entire Beamex Group got together in order to celebrate, but also to recall our excellent past, understand our present and define our future. When Beamex was founded, the customer promise was based upon one guiding principle – to make better calibration equipment. This guiding principle – of doing things in a better way – is still at heart of our business after 40 years. I'm personally convinced that if we can continue to find ways to improve our customers' calibration processes by utilizing our own unique technology and services, then Beamex's future will be even greater than its past. In this issue there are several articles in which you can read about how Beamex could assist you in improving your own calibration processes – whether by adapting the new Beamex care plan or streamlining your entire calibration process.

Enjoy reading and remember that we always appreciate your feedback – not only concerning this magazine!

Jan-Henrik Svensson CEO, Beamex Group



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# How to build a calibration workshop

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When contemplating designing and building a workshop for calibration work, or if it has already been decided, there are many important elements that should be taken into account.

In the process industry, the calibration of process instruments is performed either in the field or in a calibration workshop, and sometimes a combination of both methods is utilized. Calibration in the field is very common, but there are many situations when the workshop calibration is more suitable. In actual fact though, the most effective calibration systems combine both field and workshop calibration.

When contemplating designing and building a workshop for calibration work, or if it has already been decided, there are many important elements that should be taken into account.

In this article, we'll look at the most important steps in the process of building a calibration workshop. Even if establishing a calibration workshop is just a thought at this stage, it is useful to read through this paper to plan activities for the future.

#### **Project management**

Before discussing the steps involved in building a calibration workshop, don't forget that building a calibration workshop is a project, with various different stages included. It is therefore vital to realize that in the beginning, and to manage the project as any important assignment. Be sure to appoint an accountable project manager and establish a system of organization for the project. Naturally, all responsibilities should be specified, as well as the change management policy for the project.

#### **Researching the needs**

Before rushing into buying any equipment, it is imperative to thoroughly research of all the functionality requirements. Find out what kind of calibration work would be carried out in the workshop, which quantities and with which accuracy/uncertainty. Also, what other activities could be performed in the same workshop, for example, service and repair work, electrical and electronic The space should provide enough room and also be well located from a logistics perspective.

maintenance, and engine testing, just to give a few examples. Once all the immediate and future needs have been clarified and documented, you will have a good foundation to start planning the workshop and the preparatory work will also help determine the equipment required for the workshop.

#### Suitable space for the workshop

If a new site is being built, the space requirements should be taken into account when designing the premises. Often though, the site is already built and a suitable space for the workshop in the existing premises will need to be determined. The space should provide enough room and also be well located from a logistics perspective.

At this point, the details for the workshop are not yet clarified, so it is not possible to plan all the details, but the location and the rough requirements for the space can be estimated. Later, when all the equipment details are clear, all the details can be finalized.

The level of the accuracy/uncertainty functionality specified for the workshop, as well as possible plans for calibration laboratory accreditation, will determine the requirements for the various structures of the premises. For example, these requirements could include suitable HVAC system, lighting, airlock doors, electromagnetic interference protection and others. The more accurate the calibration workshop needed, the more requirements will need to be taken into account.

#### Evaluating and selecting the supplier

Selecting a supplier involves determining the best choice from the possible suppliers. It is crucial to remember that not only is the equipment being purchased, supporting professional services may be necessary during the installation, as well as aftersales support and training.

Some suppliers can help with the planning/design of a workshop, and in that case, it is good to involve the supplier in the early planning. The supplier can, for instance, provide a 3D layout design and help select the most suitable equipment.

Typically, there are several different kinds of equipment, furniture and accessories needed for the workshop. When possible, it is recommended you select one supplier that takes sole responsibility for all the materials to be supplied. Naturally, if there is a very wide variety of equipment and materials, this may require the use of several suppliers. But attempting to involve too many suppliers, all delivering small parts of the overall project, will most likely result in a messy situation with responsibilities being disputed.

#### **Planning the furnishings**

Planning and designing the furnishings needs to be done taking into consideration with day-to-day usability, but also with future adaptability in mind. As mentioned, the furnishings should not only fit into the space now, but the possibilities for expansion should also be considered. Different furnishing options, such as a bench, with various sizes of counter space, cabinets and shelving options, and trolley carts are available. If the workshop is to be stationary and a significant amount of counter space will be needed, a bench may be the best solution. If the workshop will need to be moved at least relatively frequently or





### How to build a calibration workshop



space is limited, a trolley workshop may be the best option.

#### Selecting the equipment

Since all the needs of the work to be performed in the workshop have been clarified in the preparatory phase, it is now time to start looking for equipment that can fulfil these requirements. This phase is naturally one of the most important phases, as selecting the most suitable equipment is essential for the workshop to be able to perform its activities.

The supplier can help select and compare the different equipment available. While selecting the equipment, be sure to prioritize the features that are most important for the plant's needs. These include, for example, accuracy, usability and ergonomics. Again, communication and cooperation with the supplier as early on in the process as possible will minimize the risk unsuitable installations, overkill in terms of functionality, or missing features.

#### Final design of the workshop space

When the equipment and furniture that is going to be installed into the workshop has been finalized, start planning all the final details of the workshop, such as the final effective area needed and the arrangement of the required electrical and pressure supplies for the workshop equipment.

#### **Procurement and delivery milestones**

Once the selection of all the equipment has been completed, prepare for the procurement process. A proper agreement should be concluded with the supplier before processing the order.

The deliveries for a calibration workshop often include a lot of equipment and furnishings, so it is important to agree the means of the delivery before the delivery takes place. The supplier can help select and compare the different equipment available.

The terms of delivery should be agreed upon, as well as the responsibilities. The project deliveries may contain several delivery milestones, as it is not only equipment being delivered, but often various different services are included in the deliveries as well. All delivery milestones should be specified and included in the agreement with supplier(s).

#### **Equipment assembly**

When all the equipment and furnishings have been received, professional resources are frequently required to assembly it all. Most likely, expensive and fragile equipment is included, so it is crucial that nothing gets damaged during the assembly. It is recommended that the full assembly of all equipment is included in the agreement with the supplier. That way, the supplier takes the responsibility that all equipment and furnishings are assembled properly, and also assures that warranty is not jeopardized.

#### Acceptance testing

Once all the equipment and accessories have been delivered and assembled, it is time to perform the acceptance testing, to ensure that everything that was ordered has been delivered and that everything is working properly. The acceptance testing is faster and smoother if you have a supplier that can assist with the testing. Consider also a pre-shipment inspection, where a plant representative will inspect the goods at manufacturer's site before shipment.

#### Training

To make the most out of the investment, make sure that the new equipment is used effectively. To achieve the best results, personnel should be professionally trained in the use of the new equipment. It is recommended that training is included as a responsibility of the supplier in the agreement.

#### Support services

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After the new workshop is in active use, it is important to assure that the investment remains in good condition in the future. The most common need for calibration equipment maintenance is to arrange the periodical recalibration of the equipment. But there can also be a need to service the equipment, so this form part of the agreement. The ability of the supplier to provide these important after-sales services should be evaluated during the selection of suppliers. It is crucial to keep the calibration workshop running optimally for years to come.

#### Conclusion/summary

Overall, building a calibration workshop is a project, and one of the most important aspects of successfully executing a project is planning. Detailed planning should be carried out at all stages in the project process: designating a project leader and team, assessing needs and usage, determining the functionality requirements, supplier selection, responsibility assignment (internally and with respect to suppliers), space availability, furnishing design, installation of the workshop and user training, all the while considering possible future needs.

## Building a calibration workshop

INTERVIEW with Mr. Rakesh Mishra, Deputy General Manager and Mr. S. Lakshminarayan, Vice President, Instrumentation at Essar Oil Limited

#### **Background information**

#### What were the most important factors when choosing a workshop for your calibrations? Did you ever consider using only portable calibrators?

Accuracy, reliability, robustness combined with the physical appearance of the total set up were the deciding factors. We already had portable calibrators and we were trying to set up a master test bench.

## What kind of research did you do in order to gather information about workshops and workshop equipment suppliers?

We had floated enquiries to known reputable suppliers with our specs and studied their offers. We also made site visits to check the performance and ergonomics.

#### Planning of the workshop

#### Tell us about the planning process when it comes to space availability, choice of supplier, 3D planning of the workshop, person/team responsible.

The first thing is to make one person responsible for the whole activity, he should be given support when forming the team. This person then has to look for the most suitable location and he should design the entire system according to the space available. 3D planning has to be done after finalising the vendor, which must be done based on product features, their PTR for similar jobs.

### How did you choose which modules to use in the workshop?

Based on the ranges required for calibration & volume of work with accuracy we decided to go for different types of modules to cover the whole calibration range. We studied our range requirements based on unit parameters. Once we knew the maximum ranges needed for our requirements we discussed these with vendors and finalized the process to get the best CMC (Calibration measurement capability).

#### Start up, implementation and follow up process

## Who assembled the workshop and what was the feedback from that process?

The calibration bench assembly was done very effectively by Beamex. It was a state of the art arrangement.

### Were you in need of any training on how to use the workshop? Did you use any external training?

The training was conducted by Beamex at the time of commissioning. We receive calibration updates from Beamex on a regular basis.

#### How is the continuous care of the workshop arranged, how is the re-calibration and service organized?

A dedicated engineer is there to take care of the calibration bench. For re-calibration, a third party contract has been awarded.



Improving power plant performance with a modern cal

# Improving power plant performance with a mode calibration process

### ibration process

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Calibration is an essential activity in power plants and there are various reasons to establish a proper calibration process. Improving power plant efficiency is one obvious reason in order to ensure profitability, while proper calibration is also vitally important for safety. Furthermore, correctly calibrated emission monitoring equipment is essential in regulated areas. Various national and international regulations and standards require certain calibrations to be performed. Naturally, the reasons may vary in different types of power plants. Improving power plant performance with a modern cal

## Common reasons for calibration Power plant efficiency

Proven plants have been proven to run more effectively and produce more energy and higher profits if the critical process measurements are more accurate. Regardless of how advanced the control system is, the system is only as good as the quality of the measurement data provided by the process control instrumentation. Inaccurate measurement data may cause the control system to make adjustments elsewhere in the process, causing additional strain on the assets and directly impacting their life cycle and maintenance costs.

Source fuel is the largest operating cost for a power generation unit and plants which have performance or heat rate improvement programs perform better than those that do not. Many of the initiatives identified to achieve the largest improvements are also capital intensive, requiring considerable time and resources. Addressing instrument calibration can be a much lower cost initiative, but can still contribute to improved performance and heat rate.

In order to keep the process measurements accurate, a proper calibration process needs to be established. Calibration should be performed with high quality equipment that ensures proper accuracy and uncertainty. Likewise, the plant should utilize calibration management software to provide the highest level of traceability. The calibration process itself, commonly referred to as standard operating procedures (SOP), must be well planned to help ensure that the work is performed effectively. Using calibration management software to analyse data and perform history trend analyses helps with instrument prioritization and ensures the usually limited resources are used for the most important calibrations.

So efficacy in this context means being able to run the power plant in a more effective manner in order to



produce more energy and earn higher profits. But efficacy also means that the calibration SOPs create the best outcome from normally limited available resources.

#### **Plant safety**

Plant safety is an essential matter for power plants for many obvious reasons.

Apart from regulatory requirements, safety is a very high, if not the most important, priority for plant.

The power plant environment is a collection of systems to carry fuel, combustion air, and boiler water. In addition to the high-pressure steam hazards there are a variety of other conventional and chemical/physical hazards that must be controlled.

### ibration process



Operating a high pressure boiler-turbine combination involves a rigorous set of controls to ensure safe operation to prevent the boiler from exceeding pressure limits. Safely managing these risks requires critically accurate pressure and temperature measurement.

Depending on the plant type, there are a number of critical safety measurement points, which most often have redundant measurement circuits. As such, the number of critical safety measurement circuits to calibrate can be very high. Since the calibration of these critical safety circuits is controlled by regulations, it is best to ensure that these are calibrated at suitable intervals with proper uncertainty and also ensure that the calibrations are documented and reported in an appropriate way. Failing to do these regulated safety calibrations may in the worst case entail the plant to be fined or even shut down by authorities, or cause a harmful accident.

One of the major sources of injury for electric power generation comes falls from ladders, scaffolds or other elevated platforms. Job safety involves the interrelationship between people and work; materials, equipment and machinery; and the environment. At the same time, for economic reasons, the highest possible level of productivity must be achieved. An accident prevention strategy with regard to calibration work must focus on reducing the tools required to perform the work and minimize the number of steps involved.

#### Regulations, emissions and invoicingrelated measurements

There are regulations for continuous emissions monitoring systems in power plants. Depending on the plant type there may be series of gas analyzers which monitor the flue gas for example for; sulfur dioxide, nitrogen oxides, carbon monoxide, carbon dioxide, hydrogen chloride, airborne particles and organic compounds, just to mention a few.

In addition to the continuous measurement of these emissions, the measurements must also be calibrated properly.

If the power plant fails to perform these measurements or calibrations it may be shut down and/or heavily fined. The automated calibration solution should guide the workforce, which may not be composed of specialists in metrology, through the calibration work in a metrologically correct way.

Although the actual Fiscal Metering and Custody Transfer is most often related to the oil and gas industries, power plants also have measurements that are used as the basis for invoicing or money transfers. It is obvious that if a large amount of invoicing is based on certain measurements, the accuracy of is of utmost importance. Any error directly affects the invoiced amount, therefore a great deal of effort must be made to ensure that these measurements are at the highest level possible.

#### **Non-critical calibrations**

The previous sections discuss some of the most critical calibrations in a power plant, but of course there are many plant measurements which require calibration. These may not need to be calibrated so often and the uncertainty requirements are not so critical. Even the documentation requirements of these calibrations may not be so stringent.

However, they could have a significant effect on power plant performance and safety over time.



Improving power plant performance with a modern cal

## Typical challenges in power pla Lack of dedicated metrology resources

In an ideal world, power plants would have enough dedicated skilled metrology experts who could concentrate solely on performing calibration work. However, the reality is that most of us are not living in this ideal world.

One common challenge that can be seen in many power plants today, as well as in many other process plants, is the lack of experts who have deep subject matter expertise in calibration-related metrology. Also, typically there are only limited resources which can be deployed for calibration work during an outage as there is a long list of other tasks that the same workforce is required to do. Calibration is just a small part of their overall responsibilities. As such, it is important to use a modern automated calibration solution that helps make calibration work more effective in order to perform the calibrations faster and with fewer resources. Furthermore, the automated calibration solution should guide the workforce, which may not be composed of specialists in metrology, through the calibration work in a metrologically correct way. This can include intelligent calibration equipment that executes fully automatic calibrations according to specified procedures with guidance on how to complete the calibration, including how to connect to the instruments, indicates the points to calibrate and performs the pass/fail calculations.

#### Legacy calibration process

Even in modern power plants, the calibration process may be outdated and based on manual or home-grown management tools. After upgrading a plant to modern, high-accuracy process instrumentation, legacy calibration equipment could be outdated because it fails to provide acceptable Test

Uncertainty ratios (TUR). Additionally, all documentation may



rely on manually recording results using paper-based records. In these environments the entire calibration system may feel like a burden and inhibit real performance improvement.

Calibration programs based on heavily manual processes normally utilize paper-based forms for the procedures which guide the technician through the calibration. The calibration is often performed with nondocumenting calibrators, so the calibration documentation is handwritten on paper, causing more work and the potential for typing errors. Also, error calculation for each test point is a manual process when determining pass/ fail status. Results may be typed into an

### ibration process





Even in modern power plants, the calibration process may be outdated and based on manual or home-grown management tools.

needs to be very well planned and specified, so that the plant can be sure the service provider calibrates exactly as required. The calibrations need to be compliant and well aligned with the company's internal SOPs. The process needs to follow regulations and be optimized, so that no time is wasted during shut downs and that schedules are met. Plants should always strive to reduce and shorten the shutdown period with an effective calibration process.

When calibration is out-sourced to a service provider there is always a risk. If calibrations are done on paper, manual data entry involves a significant risk of manual errors. Having calibration software in place where the data is automatically stored makes the data easily accessible and the oversight remains within the plant and not with the service provider. Documenting the calibrations makes the data not only dependable but also traceable for inspections and/or audits.

electronic database, if one exists, and the confirmation that the work has been performed is also manually entered into a computerized maintenance management system (CMMS).

So in short, an outdated legacy calibration process can be labor intensive, may result in poor calibration accuracy, generate a lot of paperwork and be prone to errors related to manual data entry.

#### **Outage support**

Due to the lack of calibration resources, calibration is outsourced just as often as it is in-sourced. When service providers perform the calibrations, the process

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## Modern calibration processes

What is a modern calibration process like?



f we look at the most modern calibration processes available L today, we can find the following key components: First, the management, monitoring and scheduling of all calibrations is automated with the help of dedicated calibration management software. The calibration management software can be linked to the maintenance management software for a fully automated and paperless flow of work orders. The calibration management software also communicates with portable documenting process calibrators, meaning that the work orders can be downloaded directly into the calibrators with all the required instructions for the technicians to go into the field. During calibration, an intelligent calibrator performs an automatic pass/ fail calculation, so the technicians do not have to perform complicated calculations. Also, the calibration

The most important reasons to implement a modern calibration process are to improve calibration efficiency, save costs, obtain higher quality calibrations and be compliant with related regulations. results will be stored in the calibrator's memory, and the results can be directly uploaded to the calibration management software. Finally, the calibration management software can automatically send an update to the maintenance management software that the work has been completed. As such, the whole process is fully paperless and more can be done with fewer resources as the process is highly automated, thus reducing costs and improving the quality of calibration data. A modern calibration process is also far more efficient, allowing more calibrations to be performed in the limited time during an outage.

#### Why and how to implement a new calibration process?

The most important reasons to implement a modern calibration process are to improve calibration

#### CASE: Central Nuclear de Almaraz (CNA), Spain

"Reducing the measurement uncertainty (with high-accuracy calibrators) in a nuclear power plant can potentially increase electricity production up to nearly 2 percent."

#### Increasing annual production with high-accuracy calibrators

■ In this case, an enhanced calibration system with high-accuracy calibration equipment makes it possible to perform calibration operations with better uncertainty levels, thus enabling us to improve production results. This was achieved by using Beamex high-accuracy multifunction calibrators in the power plant.

By improving the parameter measurement from 2% power, enabled power in each unit to be increased by 1.6%. This has a very significant effect on annual production.

efficiency, save costs, obtain higher quality calibrations and be compliant with related regulations. But how can a new calibration process be implemented?

Briefly, here are a few words on implementing a new calibration process:

Firstly it is vital to remember that implementing a new calibration process is a process itself, with many interrelated tasks that need to be performed in the appropriate sequence.

A proven project supply implementation model is recommended, managed by a dedicated project manager and supported by experts in the subject matter. Without a proven implementation model, you can encounter the most typical risks of implementing a new process such as unclear expectations, budget and schedule overruns, scope creep, and a lack of expected benefits.

Although implementing a new calibration process is far smaller in scope than implementing for example a new ERP system, there are still many similarities.

The implementation should start with establishing the project framework in order to have a common understanding of the project targets, specify the roles of the parties in the project team and steering group, establish management rules, specify testing and acceptance criteria. The blueprinting process is an important phase where you need to document the current process (as it is) and the target process (how it should be). During specification, you will need to document all the relevant requirements and make sure all parties have a common understanding. If all previous steps have been performed correctly, the next phase is the actual execution according to plans. Finally, the new process is put

#### SUMMARY

A modern state-of-the-art calibration process can help a power plant to:

- improve the plant performance and efficiency
- · ensure safety
- ensure emissions control
- improve accuracy of invoicing related measurements
- make the calibration work more effective, automated and paperless
- save calibration related efforts and costs
- improve the quality of calibration and help to be compliant with regulations

to use with secure support when in production use.

Using a supplier that has a proven implementation model and which can take responsibility for the required actions is recommended.

### Customer success story

## Alabama Power, US

Creating a safe environment through uncompromised accuracy at Alabam

Southern Company, one of the United States' largest producers of electricity, operates four utilities with Alabama Power being the second largest within the company. Over 1.4 million homes, businesses and industries in the southern two-thirds of Alabama count on Alabama Power's reliable electricity supply and service. More than 78,000 miles of power lines carry electricity to customers throughout 44,500 square miles.

The process control of instrumentation at Plant Miller is managed by two departments. The instrument and control (I&C) department at Plant Miller is made up of engineers and I&C specialists responsible for maintaining the distributed control system (DCS). The electrical and instrumentation (E&I) department includes journeymen responsible for maintaining the plant's process control instrumentation. The journeymen use portable calibration equipment to make adjustments on site.

### The instrumentation and importance of calibration

The majority of the pressure, temperature and level transmitters at the plant come from Endress&Hauser, Rosemount, and ABB. These also include switches, PDITs, RTDs and thermocouples.

All instrumentation is classified into two categories; Critical or Balance of Plant (BOP). Although BOP instruments



### a Power



Calibration affects the ability to most efficiently generate power. If an instrument is functioning properly, it improves process control.

are tasked with taking important measurements, they do not significantly impact the process or cause a substantial safety hazard. However, Critical instruments measure process variables that have a significant impact on the process and safety. Some critical instruments can trip the process if they are not operating correctly. In total, there are over 1,000 Critical instruments at the plant.

Calibration affects the ability to most efficiently generate power. If an instrument is functioning properly, it improves process control. The better control, the better the end product. Accurate measurements also optimize fuel consumption, the biggest expense for electricity generation. A transmitter out of tolerance could cause other areas of the process to overcompensate by working harder, using more air, more fuel or more gas, affecting the entire process. Consumption affects everything in the long term, including equipment life cycle.

#### Managing assets and identifying areas for improvement

Faran Rolingson is a Senior Control Engineer in the I&C department at Plant Miller. He manages maintenance projects, including calibration of instrumentation for all of the units and scrubbers. Rolingson is responsible for setting up the job plan and calibration routes, which occur during routine, yearly plant outages when all of the standard calibrations are performed.

When Rolingson joined Plant Miller, calibration was a very manual process. Single function calibrators were used, and meant the E&I journeymen also had to carry a multi-meter and communicator into the process area. It was challenging for the journeymen to follow their routes while carrying the multiple tools required during highactivity outage periods. Elevators were also forced to capacity, directly impacting both safety and productivity.

All information and documentation was paper-based, making it timeconsuming to gather and also introducing the risk of human error. Calibration results were manually recorded using pen and paper. Routes were decided by reviewing printed maps and drawings. The routes were based on the plant systems, which meant a route could start with a calibration on the highest elevation, followed by the next calibration on the lowest. This required the journeymen to traverse up and down 13 floors with equipment, a highly inefficient workflow. The journeymen would also have to refer to printed drawings to locate instruments, adversely impacting productivity during time critical outage cycles. The paperbased nature of the plant's data and documentation was extremely time consuming and labor-intensive.

### Setting up for success with high standards

Rolingson accepted responsibility for the I&C portion for Plant Miller's implementation of the company-wide SOE. It was an opportunity to centralize



### Customer success story

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information and simplify the process, improve accuracy, save time, create a safer environment and make the work easier for everyone. The SOE requires plants to use an electronic database and documenting calibrators as the foundation of an automated instrument calibration program. Furthermore, the documentation system must be enterprise-level, providing the ability to be deployed over the corporate network and the capability to integrate to the company's computerized maintenance management software, Maximo. With an impending internal audit, Rolingson had to quickly conduct a GAP Analysis to assist in evaluating various solutions on the market.

Rolingson first evaluated the calibration equipment in service and observed the accuracy specifications did not provide an acceptable Test Uncertainty Ratio (TUR) to the more modern instruments being calibrated. In evaluating procedures, traditionally test procedures consisted of 5 points up and prevented any instrument hysteresis from being identified and documented. Rolingson also found instrument location information was only contained in printed maps and not easily accessible. This required gathering as much detailed instrument information as possible and converting the data to electronic format using an Excel and Access database in order to scale requirements for potential solutions.

After researching different vendors, Beamex was the only solution offering the all in one integrated solution (hardware & software) meeting all requirements in the GAP analysis. Rolingson chose the Beamex integrated calibration solution, including Beamex MC6 advanced field calibrator and communicator, temperature blocks, pumps, and CMX professional calibration management software.



#### Superior functionality

There were some instances where the information available for an instrument could not be verified or was somewhat incomplete. To resolve this, journeymen used the MC6 HART communicator to map data from the instrument into a tag-based format on the MC6, perform a calibration, then, create the instrument and calibration results in the database upon upload. This method allowed for an extremely efficient way to establish tags in the database with a very high degree of quality. Additionally, having all instrument data in a central, electronic database makes the planning function much more efficient. The plant's instrumentation is organized in a hierarchical structure which makes development of highly optimized routes quick and easy.

The MC6 advanced field calibrator and communicator allowed the journeymen to reduce the numerous pieces of equipment required to a single, multifunctional unit. Managing only one piece of equipment improved the safety and efficiency of the calibration work. The journeymen found the MC6 very easy to use. The big, color touchscreen made it easy and intuitive to navigate through the different functions of the MC6, and each



functional mode is easily accessed from the "Home" screen. The plant SOE requires both AS FOUND and AS LEFT data to be documented which required two tests be conducted. The MC6 provides the option to save the AS FOUND data in the AS LEFT table if no adjustment to an instrument is done, another feature of the MC6 that has reduced the amount of time required to be compliant with procedures.

The temperature and pressure switches are critical to safety in the plant. Calibration relied heavily on the skill of the journeyman to precisely determine the measurement upon physically observing switch actuation and de-actuation. This critical calibration is now completely automated with a high degree of accuracy using the MC6. There is now no reliance on the journeyman to observe the measurement and switch action simultaneously, making for a high quality calibration and ultimately much safer operating environment.

Being a member of HART Communication Foundation, Beamex diligently makes instrument manufacturer's device descriptions (DD) available for MC6 users to download and apply themselves. Previously, it was quite disruptive and time consuming to search for the correct DD for their handheld communicator.

### Realizing the benefits, return on investment

"When you are under the gun, you need to know whether it was the process, the transmitter or controls," Rolingson states. The high accuracy specifications of the MC6 allowed them to exceed industry standard TURs which give the automation engineers confidence that process control instrumentation is performing as designed. The older measurement standards had an acceptable TUR when they were initially procured years ago, but the modern instrumentation in service today has evolved to be more accurate. The high accuracy of the MC6 provides a higher quality of control, improved process efficiency, and optimized fuel consumption.

"Tasks that would take a month to two months to complete, could be performed in a few weeks," explained Rolingson. "Time is money." By removing all the manual steps in the workflow, and eliminating all the paper from the dataflow, the plant has realized a documented time savings from 70%, even up to 75% in some cases, on

#### SOLUTION

#### Description

- Beamex MC6 advanced field calibrator and communicator
- Beamex CMX professional calibration management software
- Beamex EXT pressure modules
- Beamex FB field temperature blocks
- Beamex PGXH calibration
  hand pumps
- Beamex PGM calibration hand pumps
- Beamex PGV calibration hand pumps

#### Main benefits

- Maximized safety
- Improved accuracy and test uncertainty ratios
- Increased efficiency
- Significant time savings from automated processes
- Improved traceability
- Enhanced asset management and documentation practices

calibrating pressure transmitters and pressure switches. Time is of the essence during an outage, so this time savings allows technicians to maximize the amount of work accomplished in the shortest amount of time, while effectively performing vital tasks and managing workflows.

Eliminating inefficient calibration work greatly reduces the risk of outage schedule overruns and delays of start-up procedures. For Alabama Power and Southern Company, this means lowering their cost while maximizing revenue generation.

> JAMES H. MILLER, JR. ELECTRIC GENERATING PLANT

### Customer success story

## Essar Oil Ltd, Vadinar refinery, In

Fully automated workshop for pressure and temperature calibrations

The Essar Group is a multinational conglomerate and a leading player in the sectors of steel, oil & gas, power, communications, shipping ports & logistics, construction and minerals. With operations in more than 20 countries across five continents, the group employs 60,000 people, with revenues of about USD 15 billion.

Essar Oil Limited, part of Essar group, has a world-class 20-million tonne (405,000 barrels per day) refinery. It currently yields 300,000 bpd at Vadinar in Gujarat, which is being progressively expanded to a capacity of 36 million tonnes (750,000 bpd). It has the capacity to produce petrol and diesel suitable for use in India and advanced international markets. Refining capacity will also include LPG, Naphtha, light diesel oil, Aviation Turbine Fuel (ATF) and kerosene.

The refinery has been designed to handle a diverse range of crude — from sweet to sour and light to heavy. It is supported by an end-to-end infrastructure setup including SBM (Single Buoy Mooring), crude oil tankage, water intake facilities, a captive power plant (currently 120 MW, being expanded to 1,010 MW), product jetty and dispatch facilities by both rail and road.

The refinery is strategically located in Vadinar, a natural, allweather, deepdraft port that can accommodate Very Large Crude Carriers (VLCCs). Vadinar also receives almost 70 percent of India's crude imports. After the refinery is expanded to 36 Mtpa, it will run at a Nelson Complexity of 12.8. This means it will be able to refine all varieties of crude, producing Euro 5 grade fuels. It will also be among the largest single location refineries in the world, thus leveraging on economies of scale.

Mr. S. Lakshminarayan is Vice President and Mr. Rakesh Mishra is Deputy General Manager, Instrumentation at the Essar Oil



Limited, Vadinar refinery. The refinery is quality certified and operates according to ISO 9001 and ISO 14001 quality standards.

#### The situation

"In terms of our calibration requirements, we have more than 15,000 field devices that we calibrate regularly," Mr. Mishra begins. All those devices are calibrated in the field using various secondary calibrators. All calibrations are executed in-house.

Calibration itself is considered extremely important at the site, as it helps to assure the reliability and accuracy of instruments as well as to meet regulatory requirements and quality standards. The Beamex test and calibration bench system is used to recalibrate all these secondary calibrators and devices such as digital multimeters, pressure and temperature calibrators as well as digital manometers. In addition to calibration, the system also facilitates electrical and electronic repair and testing. The site is ISO certified.

"The biggest benefits include savings in time and ease of use."

#### The solution and main benefits

Essar Oil's Vadinar refinery utilizes a total of seven Beamex calibration test benches set at various parameters for performing calibrations. "We were looking for an all-in-one calibration solution having all the relevant features for automating temperature and pressure calibrations, when we studied the different alternatives.

"We found out that Beamex's solution fulfilled our requirements," Mr. Lakshminaryan explains. "One of the important decision criteria in selecting the supplier was the quality of service and support we would receive for the Beamex equipment from Waaree

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High accuracy, ease of use, reliability and costs were also considered important factors in making the decision, and Beamex's solution was able to meet all of the requirements.

Instruments Limited, Beamex's partner in India," Mr. Lakshminaryan continues.

High accuracy, ease of use, reliability and costs were also considered important factors in making the decision, and Beamex's solution was able to meet all of the requirements.

"I would even say that userfriendliness and the ability to reduce time used to calibrate were the most important factors for any solution we were considering," Mr. Mishra explains. The Vadinar site has been extremely satisfied with the Beamex calibration solution. The MC5P, the core of the calibration test bench system has proved to be very easy and efficient to use. "It saves us time; that's the most important thing," Mr. Mishra reveals. The automated pressure calibration functionality makes it possible to perform more calibrations in the same period of time as well as execute other tasks while an instrument is being calibrated.

Therefore, the Beamex system enables multitasking in calibration laboratory. In addition, the Beamex system communicates with temperature baths, which means that automated temperature calibrations can also be easily executed.

The quality of calibrations has increased and the time cycle of temperature calibrations has reduced drastically. "Since we have a vast number of HART<sup>®</sup> -based transmitters, we wanted to be able to easily calibrate and trim these transmitters in our laboratory without using additional equipment. Also this was possible with Beamex's solution." Mr. Mishra points out.

A key elemental part of the laboratory is the Beamex CMX calibration management software that binds all the essential parts together. CMX includes the intelligent History Trend feature that helps in deciding to change the calibration interval of a transmitter after evaluating the calibration history. This results in further timesavings as the interval can be extended depending on the performance of the particular instrument.

Once the Beamex calibration system had been bought, Beamex Professional Services team together with their local

#### SOLUTION

#### Description

- Beamex test and calibration
  bench system
  - including HART option
  - fully automatic pressure and temperature calibration
- Beamex CMX Professional calibration management software
- Beamex PG hand-pump kits
- Beamex professional services

#### Main benefits

- Extreme accuracy
- Centralized, server-based
  calibration management system
- Time savings due to automated pressure and temperature calibration capability
- Communication with temperature bath
- · Reliable, user-friendly system

partner, Waaree Instruments Limited, provided installation, commissioning and training of the system for the entire instrumentation team at the Vadinar site. Training is seen as an important factor at the site – it ensures that both the users of the equipment and the managers gain the necessary skills to use the calibration system to its fullest potential.

The confidence and the great advantages the system is proving for Vadinar refinery, they are confident in pursuing NABL accreditation for the laboratory further enhancing the usage and capabilities for even wider range of revenue generation for the company. This will result in further decreased payback time of the investment made for the calibration laboratory.

### **Customer success story**

## Eurotherm, Germany

Industry-compliant calibration services for aviation and automotive manu

urotherm is the market-leading, d global supplier of solutions in **⊿**control engineering, measurement technology and data recording for industrial and process customers. For 50 years now, they have provided customers around the globe with innovative solutions across a broad spectrum of vertical markets. Their international reputation as a provider is underpinned by an engineering service focused specifically on optimising company-wide assets. Eurotherm has been part of the Schneider-Electric Group since 2014. After setting up a cutting-edge calibration laboratory in 2013, Eurotherm also assists customers in complying with demanding regulations. Across Europe, more than 50 people work in calibration.

#### The starting point

Eurotherm is the gold standard in highly accurate adjustments, precise data collection and secure recording. However, companies simply cannot rely on the device information found on data sheets. Instead devices' precision must be proven and documented. Compliance with standards such as AMS2750, CQI-9 and ISO, are only met if systems work with properly calibrated devices. That is where Eurotherm comes into the picture. Calibration is the heart of the business. Five service technicians and three employees in the Limburg

Standards such as AMS2750 and CQI-9 require the best possible equipment for measuresments and transmission.



subsidiary work exclusively on appointment planning, coordination, implementation and documentation of the various calibrations (e.g. DAkkS, UKAS, ISO, Chargen). Moreover, their calibrators are also administered in Limburg. The expectation is high levels of accuracy, fail-safe operability and long-term stability from equipment. Furthermore, the calibrators must be able to communicate with devices without the need for additional interface converters.

#### The solution

Eurotherm has been active in the field of calibration for many years. The first

calibrators were analogue. Later, devices sometimes had high failure rates and it took some time to get used to operating them. Because of rising customer expectations and the expansion of the range of services included a calibration laboratory, they searched for a multifaceted, universal solution covering all manner of requirements, which is what Beamex provided. For six years, they have used the Beamex MC5 and MC6 devices and two pressure modules. Service technicians that perform calibrations in the field are very enthusiastic about how simple they are to use. The easy-to-follow user instructions reduce the potential for mistakes from incorrect entries. The

### facturing with extremely precise calibrators and documenting software



effective communication between the Beamex MC5 and the calibrated devices, means that no additional converters are required. The resulting fast connection saves time and money.

Moreover, the Beamex calibrators' considerable stability and reliability save time and money required to recalibrate devices, minimizing the number of replacement devices required. Andreas Heller, head of the calibration laboratory says, "despite the high purchase cost it is worth using high-quality calibrators. Thanks to Beamex devices we can perform DAkkS certified calibrations in our laboratories, thus meeting our customers' quality requirements."

In addition to Beamex calibrators,

CMX calibration management software is used in the laboratory. This software features all of the functions needed for comprehensive test equipment management, including measurement uncertainty. Moreover, the software makes it possible to monitor customers' devices and their calibration/ recalibration cycles. A traffic light function shows when the next calibration is required. The individual calibration procedures are stored for the customer's benefit. This simplifies both the planning and performing of calibrations for both Eurotherm and their customers.

The paperless management of test tools facilitates data searches and evaluations. Customers can access their data at any time via the EOS (Eurotherm Online System). EOS also provides for online processing of calibration and accreditation information; an intuitive web platform makes it possible to check the calibration status of system components; and authorised personnel can call up information quickly and easily. This allows our customers to maximise their system availability simply and effectively.

#### Summary

Since 2013, with the use of Beamex devices and CMX software, Eurotherm has been able to perform 1,800 calibrations at its DAkkS certified laboratory in Limburg. Many times that number of calibrations have been carried out across the whole of Europe. Paperless documentation including recalibration cycles using the CMX software offers customers a cost effective way of processing and administering data. Despite the high investment, Beamex's calibration is the optimal solution for electrical calibrations of all sizes and pressures.

#### SOLUTION

#### Description

- Beamex MC6 advanced field calibrator and communicator
- Beamex MC5 multifunction calibrator
- Beamex POC6 automatic pressure controller
- Beamex CMX calibration software

#### Main benefits

- Easy and reliable device operation
- Very high accuracy
- Good long-term stability
- Long battery life
- Modular and expendable construction of devices
- Reliable and quick re-calibration service

Compliant tolerances, measurement accuracy and highly precise equipment create the best audit trail of all sorts (e.g. for NADCAP in aviation).

## News

## Jan-Henrik Svensson appointed as the new CEO of Beamex Group

■ On the 31st of July 2015, Beamex Group's long-standing CEO, Raimo Ahola, retired. Jan-Henrik Svensson, former Vice President of Sales & Marketing at Beamex Group, was appointed as the new CEO starting from August 1, 2015.

Raimo Ahola has been the CEO of Beamex Group for seventeen years, and his retirement in the end of July this year was part of a long-term plan agreed with Beamex's Chairman of the Board to ensure a controlled and smooth transfer of CEO's duties to a successor. Even if Raimo left Beamex and stepped down from operative business management positions, he plans to remain active in business in other roles elsewhere, such as an advisor or a board member.

"It has been a great and rewarding journey to work together with very motivated, engaged and talented people to develop Beamex's calibration business. We are privileged to have many of the world's greatest companies as our customers. I am also very proud of our global sales and support partner network and the unique relationship we have with them. I think the company is in great shape, we have a winning strategy and I feel I'm also in great shape, so now is the right time to leave and give way to a fresh CEO with new ideas," summarizes Raimo.

The, now former, Chairman of the Board, Beamex and Sarlin Group, Patrik Wikström comments: "Raimo has done an exceptional job at Beamex with very exceptional results. During Raimo's years as the CEO of Beamex, the company has grown to become a leading company within its industry in the world. Beamex's organic growth, profitability and return on capital are very strong and second to none. The people, processes and the company



From left Jan-Henrik Svensson, Raimo Ahola and Patrik Wikström.

culture together with the unique strategy forms an excellent basis for future success. On behalf of the Board and owner family, I want to express my warmest thanks to Raimo for his work for the company and the group and wish him enjoyable time with his new activities."

The new CEO of the Beamex Group, Jan-Henrik Svensson, BSc (Eng), has for the last nine years been the Vice President of Beamex Group. Before joining Beamex, Jan-Henrik worked in various international management positions within ABB and also as a Business Unit Manager within the KWH Group.

"Beamex's Board of Directors is very pleased that Jan-Henrik accepted the offer to become the new CEO of Beamex. Jan-Henrik already has a strong track record with Beamex and his work history prior to joining Beamex is very valuable in this new role. I am very confident that he will take the company to the next level," says Wikström.

Jan-Henrik Svensson is very excited about the opportunity: "I am very thankful of this opportunity to start as the CEO of Beamex. It's a one of a kind company with skilled people and a unique business culture. The company has a strong market position and it is recognized for its technology, calibration expertise and global presence. My goal is to make sure that Beamex will build on already demonstrated successes and that we also leverage new exciting business opportunities. I also want to ensure that Beamex continues to be a very competitive and global technology and service company with satisfied customers, motivated employees and high ownership value."

## **The Beamex Care Plan**



Beamex is pleased to introduce the Beamex Care Plan, a new service contract for maintaining the accuracy and reliability of measuring equipment throughout its lifetime.

Calibration equipment is a significant investment and has a long lifetime, but it needs periodic recalibration in order to maintain its accuracy and traceability. A portable process calibrator is often used in demanding industrial environments; however, it carries with it the risk of damaging the equipment, causing unexpected repair costs and equipment downtime. How can one ensure that a calibrator remains accurate and how to avoid unexpected repair costs?

Beamex has launched a service contract for calibration equipment called the Beamex Care Plan. The Beamex Care Plan is a long-term equipment service agreement that includes periodical calibrations for maintaining equipment accuracy. It also includes an extended warranty and free repairs, even in the case of accidental damage, as well as replacement of wearable parts. Furthermore, it includes free shipments to and from Beamex's accredited calibration laboratory in Pietarsaari, Finland. The agreement includes various other valuable services, such as email notification of due calibration, priority service, helpdesk support, and applicable updates of firmware.

The Beamex Care Plan includes everything that ensures the accuracy of your calibration equipment and keeps it in operating condition throughout its lifetime, all with predictable costs.

Initially, the Beamex Care Plan will be available within the EU and the EEA only. Please visit Beamex's website for full details of the Beamex Care Plan.

## News

## **Beamex's 40th anniversary**



**CEO Jan-Henrik Svensson presenting** the future plans for Beamex.

■ Beamex was founded in 1975 by four technicians: Eero Halonen, Krister Knuts, Veijo Meriläinen, and Nils- Erik Sundfors. The goal was to develop qualified measuring equipment that would better fulfil the needs of the user, compared to existing instruments used for measuring. The business plan also included exporting to other countries. These cornerstones of the business plan are still some of the main driving factors for Beamex, and today exports amount to 95% of the business. Beamex has sales operations and sales persons in nine countries around the world, including its headquarters in Pietarsaari, Finland. In August this year, all Beamex employees gathered at Beamex headquarters for a week of meetings, team building activities and, most importantly, to celebrate Beamex's 40th anniversary.

All in all, there were 1800 years of calibration experience gathered under the same roof during the week.

The week started with workshops and

meetings, where employees from the same unit in different countries discussed work processes and plans for the future.

During the last three years, Beamex has employed, on average, six persons a year. Yet Beamex also has several employees that have been with the company for over 20 years. The combination of new, fresh ideas and years of Beamex experience resulted in many interesting discussions throughout the meetings, as well as new



The entire Beamex group as well as owners and board members at Campus Allegro in Pietarsaari.

inventive plans for the company.

The employees also had the opportunity to listen to an entertaining and fascinating presentation of Beamex history, presented by Henrik Nystrand, who has been working for Beamex since 1985.

During the evenings, there was plenty of time for team building activities and, since the Finnish weather showed itself from its best side, many of the activities took place outdoors. Some of the groups enjoyed the Finnish archipelago by boat and went to the sauna and swimming, while others went paintballing in the forest or enjoyed dinners by the sea.

The highlight of the week was the anniversary party itself. The theme for the party was a Viking dinner, which meant that the guests had the opportunity to dress up in Viking inspired clothes and eat the food (consisting solely of meat) with their bare hands. The night also consisted of music, dancing, fireworks and fun calibration related tasks. It was an unforgettable party that lasted until the early hours of the morning.

The whole week was truly memorable and helped strengthen the already good team sprit within Beamex.

It was fascinating to see and hear how much Beamex has evolved during the last 40 years, and the whole Beamex group is excited to see what the next 40 years will bring for Beamex.

## News

## Welcome to Paul Eeley, the new Sales Director for UK & Ireland



Paul Eeley joined Beamex Limited.

■ Paul Eeley joined Beamex Limited in September 2015 as the new Sales Director for the UK and Ireland. Paul has over 30 years' experience in process and control systems, starting his career as an apprentice with GEC Gas Turbines, which he completed with Fisher Controls (later acquired by Emerson) and became a Systems Engineer. Paul later moved into a Product Specialist role and then Project Management. He then moved into Sales Account Management and various Sales Management roles. Before joining Beamex he was part of the Global Projects Pursuit team for Emerson Process Management.

#### Experience

Paul brings to the Beamex Limited team experience of managing sales teams and an engineering background in

Control and Instrumentation; he also has extensive knowledge of specifying and delivering complex projects involving hardware, software and services which equips him well for life at Beamex.

#### **First impressions of Beamex**

Paul is happy to have "joined a company with a great team approach, great products, and focused and knowledgeable staff". He plans to build on this in the future, with a "continued drive on the team approach, to develop skills within the company, and ultimately ensure Beamex continues to work closely with and provide the best solutions for our customers."

## Beamex introduces a mobile MCS200 calibration trolley

■ Testing and periodic calibration may be carried out at multiple locations throughout a processing plant. Test equipment and calibrators are typically portable units for tasks performed in the field, or stationary when installed in a workshop or laboratory.

Multipurpose test benches provide an efficient and ergonomic asset for performing versatile maintenance and calibration tasks; however, they are not designed for mobility.

To meet this demand, Beamex has now introduced a new mobile workstation, the MCS200, allowing easy transport of the calibration and test unit to wherever it is needed at the time.

The modular MCS200 trolley can host the necessary devices for pressure, temperature- and electrical calibration, automatic pressure controllers, 1- and 3-phase power supplies, measuring equipment, and isolated outlets.

The MCS200 can be equipped with versatile accessories, making it practical and convenient to use. This may include items such as an adjustable laptop stand, tool holders, storage cabinet, stand for high pressure cylinder, pick-up boxes, and more. Optional off-road wheels further increase its range of application.

Equipped with the MC6 Workstation, Beamex's new panel-mounted Calibration trolley offers calibration capabilities for conventional, HART, FOUNDATION Fieldbus, and Profibus PA instruments.

The MCS200 Calibration trolley is part of the Beamex Integrated Calibration Solution (ICS). Coupled with Beamex CMX calibration management software, it enables fully automated and paperless calibration and documentation.



## News

## **Beamex expands its operations in the Midd**



Juha Salimäki, Tariq Jafar and Adnan Al-Ali.

Beamex continues its strong growth in the Middle East and has strengthened its operations in the Kingdom of Saudi Arabia by expanding the local Technical & Scientific Office and appointing a new local distributor, the Khusheim Company for Industrial Equipment with headquarters in Dammam. Mr. Juha Salimäki, Sales Director - IMEA, had previously been appointed as General Manager for the Beamex Oy Ab Technical & Scientific Office. "We now have a strong team in place to support our local partner as well as end users in the kingdom. Mr. Tariq Jafar, Mr. Adnan Al-Ali and myself are ready to take the company to the next level in the kingdom," Juha explains.

"We are also very pleased to announce the cooperation with Khusheim Company for Industrial Equipment, a very well-known private company in the instrumentation and industrial workshop fields. Together with Khusheim, we are in a position to provide local customers in the kingdom extremely strong and technologically superior solutions for their calibration and instrumentation requirements, from portable calibrators to calibration test benches and systems, all integrated with cutting-edge calibration software. With their expertise of setting up complete workshops, we can finally deliver complete packages to our existing clients and potential new customers, from tools and tackles to comprehensive lab packages such as turn-key projects. Khusheim has a nationwide sales and marketing network in the Kingdom of Saudi Arabia," states Tariq Jafar, Country Manager for the Beamex Technical and Scientific Office.

#### Beamex establishes a regional office in United Arab Emirates

Beamex has recently established a Representative Office, Beamex Oy Ab – Abu Dhabi, in the capitol of the United Arab Emirates to act as a Hub for the Middle East and Africa regions and has appointed Juha Salimäki, Sales Director – IMEA, as the General Manager for the

## **le East**



#### Mark Slater and Juha Salimäki at Beamex's Representative Office in Abu Dhabi.

office. "This is another very exciting piece of news that we are able to share as this is the second regional office in the Middle East in order to strengthen our presence and to provide even more solid support to our local partner in the United Arab Emirates, Euro Mechanical and Electrical Contracting Company LLC, and local end users. I personally am greatly looking forward to implementing our growth strategy in the UAE market," Juha explains.

"As an important part of our Middle East growth strategy, we have appointed Mr. Mark Slater as the Business Development Manager to our Beamex Oy Ab – Abu Dhabi, office," Juha states. Slater will be in a key role to further develop Beamex' brand recognition as well as to implement Beamex' successful strategy in the Middle East. He has vast experience within the instrumentation sector, working previously with Beamex Limited in the United Kingdom for 5 years and with 25 years of prior experience within the instrumentation industry.

"With all these recent changes and additions in the Middle East region, we have strengthened our ability to respond to the vast business potential and to further enhance the level of our high end support to our valued customer base as well as toward our local partners. I am confident that our current and new customers will benefit from these strategic enhancements," Juha explains.

### Beamex success stories in the Middle East

We are proud to announce that Beamex has been recently awarded with a series of significant orders from industry leaders in Middle Eastern markets.

In a challenging market environment where oil prices affect the exploration segment, Beamex's high accuracy field and workshop calibrators and calibration management software help to make the calibration process more efficient and accurate, resulting in cost and time savings, which are crucial elements especially in legacy plants with higher operating costs.

A Major Gas company based in Abu Dhabi which is setting up a large green field project awarded an order in the United Arab Emirates for Beamex' local partner, Euro Mechanical & Electrical Contracting Company LLC, to deliver a key calibration workshop solution based on the Beamex MCS200 calibration test bench systems as well as the Beamex CMX calibration management software package for the customer's main plant instrument workshops.

"This strategic project among the others that we have been awarded across the Middle East are the end result of a great team effort between Beamex and the local partners and I greatly enjoy the fact that these prestigious customers rely on Beamex as their vendor for calibration solutions and I am confident that we will be able to continue the same successful growth path in the future as well," Juha further explains.

## News

## ISA Partnership and the best calibration practices conference

■ Several years ago, Beamex became the International Society of Automation's (ISA) Strategic Partner for Calibration. Through the partnership, Beamex and ISA work together to create technical articles, webinars, seminars, expert advice and more, with the goal of educating industry professionals on the best calibration practices. Furthermore, Beamex has made a large donation to ISA's training department giving students access to the most up-to-date and automated calibration technology available.

"Quality and precision are two of the most important characteristics of calibration solutions, and the Beamex suite of products and services is among the best in the world. Accuracy, reliability, and functionality are more than marketing lingo for Beamex – the company strives to bring these characteristics into every part of its operations," said Jennifer Halsey,



Patrick Gouhin, ISA's executive director and CEO, welcoming the participants to the conference.

Director, Marketing & Communications with ISA.

Late last year, ISA and Beamex held their inaugural technology conference titled Less Risk, More Performance: Best Calibration Practices. Over ten interactive sessions were presented by well-known industry leaders, ISA, and Beamex. The schedule included both strategic and in-depth technical discussions and workshops while allowing attendees the opportunity to network and share their experiences with one another.

As one attendee explained, "We came to the conference to learn about the latest technology, which provides value for our employer in regards to the accountability and sustainability of our infrastructure. It's also been a very good arena to share and exchange information with other industry professionals."

Beamex looks forward to a long-term relationship with ISA and its community, and a continued effort to better prepare and educate automation professionals around the globe.



## Beamex in brief

Beamex is a leading worldwide provider of calibration solutions that meet even the most demanding requirements of process instrumentation. Beamex offers a comprehensive range of products and services — from portable calibrators to workstations, calibration accessories, calibration software, industry-specific solutions and professional services. Through Beamex's partner network, our products and services are available in more than 80 countries.

#### Learn more about Beamex products and services

www.beamex.com

#### Brochures, product demonstrations and quotations

info@beamex.com www.beamex.com/request (online request form)

#### Software support

support@beamex.com

#### **Re-calibration and service**

service@beamex.com

#### Find your local Beamex sales office

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### Interested in submitting an article to Calibration World?

Contact: pamela.skytte@beamex.com

#### If you would like to remove your name from our mailing list

Please visit www.beamex.com or send an e-mail to info@beamex.com

## Beamex products and services

#### **Portable calibrators**

Beamex's range of portable MC calibrators for field calibration is known for accuracy, versatility and meeting both high and uncompromised quality standards.

- MC6 advanced field calibrator and communicator
- MC5-IS intrinsically safe multifunction calibrator
- MC2 series
- MC4 documenting process calibrator
- MC2-IS intrinsically safe multifunction calibrator
- FB/MB temperature dry blocks
- POC6 automatic pressure controller

#### Workstations

A workstation can be considered ideal when most of the maintenance and calibration tasks are performed in the workshop.

- MCS200 calibration workstation
- MC6 Workstation

#### Accessories

Beamex's calibration accessories complete your investment in calibration equipment.

- External pressure modules
- Calibration hand-pumps
- Spare parts

#### **Calibration software**

Plan, manage and document all your calibrations efficiently and safely using Beamex's calibration software.

- CMX Light
- CMX Professional
- CMX Enterprise

#### **Professional services**

An essential part of a complete calibration solution is professional services — service and re-calibration, installation and training, software support, validation services and integration services.

- Re-calibration and service
- Installation and training
- Software service agreement (SSA)
- · Validation services (pharmaceutical industry)
- Integration services



## **Best practices in calibration**

Hands-on workshops and interactive education. The Best practices in calibration conference is a technically driven and education-based, designed to equip engineers and technicians in the field with strategies for improving daily maintenance processes and tasks. Tactics for strengthening accuracy and quality, while saving time and lowering risks will be taught by industry experts.

For more information about the upcoming conferences go to: www.beamex.com/conferences





Portable calibrators Workstations Calibration software Professional services Industry solutions

www.beamex.com info@beamex.com