

wazzup

Environmental challenges in the Mining Industry
Extracting More from Less Endress+Hauser Solutions

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for Mining Fleet



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Information at your finger tips

Dear Customers and Colleagues

"I am honoured and excited to begin my new role as the Managing Director of Endress+Hauser South Africa. I will be taking over from Rob Mackenzie, who has moved to Endress+Hauser Consult, as the Corporate director for Sales Excellence. I wish Rob all the best and would like to thank him for handing over a well-run, successful organisation. Even before officially starting in my new position, I was warmly welcomed into this family company. The spirit and values of Endress+Hauser resonates in its people. The culture and passion of the people is inspiring to me.

I am grateful for this new position, which allows me the opportunity to exercise with confidence, the knowledge and skills I have gained from the industry over the past 25 years. I worked with many well-known companies such as Siemens, Schneider and EOH. I have acquired vast experience in the various industries, and most recently been involved in digitalisation and IIT.

In this edition of the *wazzup* magazine, we focus primarily on challenges in the mining industry.

Mining is having to reinvent itself! Statistics show that the mining industry is almost 30% less productive today than it was 10 years ago. The need for better data acquisition and management is pivotal to increase efficiencies and manage costs. The ability to view and manage the entire value chain is vital. e.g. Customers of mining operations have become more stringent on the quantity and quality of produce they purchase. This has created the need for more efficient processes and increased productivity. Digitalisation is playing a key role in optimisation of processes. Mines now have the ability to access intelligent information, which can be used to improve productivity and in turn increase profit.

With Endress+Hauser's offering of high quality products, services and solutions, we are able to meet the needs of our customers in the mining industry, and thus we continue to be a reliable partner to help our customers achieve their goals.

Our committed team here in Southern Africa, will continue to help you our customer improve your processes. I look forward to meeting and working with you.

I believe together we can achieve great results!"

Yours Faithfully

Bernhard Kloss

"I am grateful for this new position, which allows me the opportunity to exercise with confidence, the knowledge and skills I have gained from the industry over the past 25 years."

Bernhard Kloss

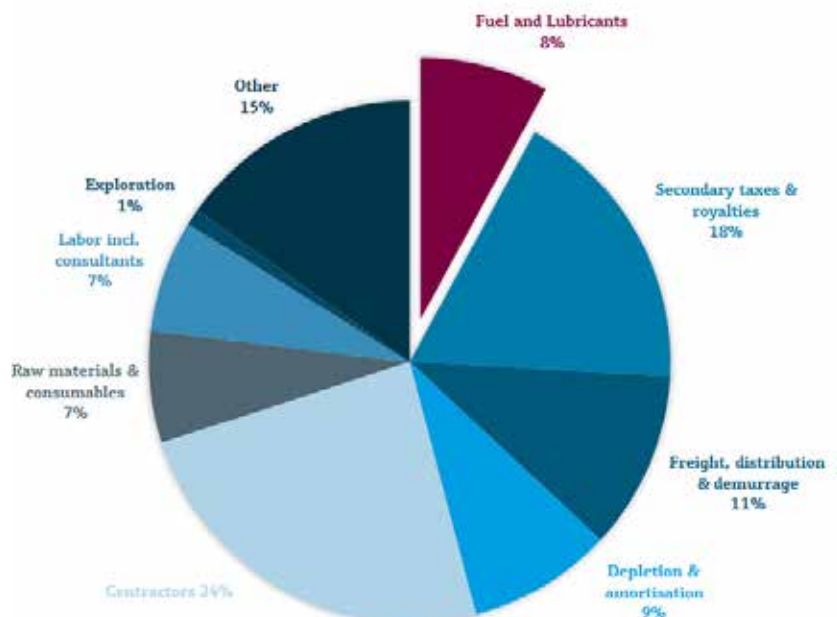




Improved Fuel Management for Mining Fleet

Solutions for optimising fuel management and reducing costs

With the current economic climate many companies are looking to make their Rand go further. This is especially the case when it comes to fuel, as modern industries cannot operate without it. As diesel costs continue to rise, companies want to get the most out of what they pay. Fuel and lubricants are the lifeblood of the mining industry, and this industry relies on it to ensure continuous operations. Fuel and lubricants are one of the biggest expenses on a mine. The way in which a mine purchases, stores, manages and uses fuels and lubricants can make an enormous difference to their bottom line. Effective fuel and lubricant management can help mines reduce their operating costs, increase their productivity and reduce environmental risks.



Estimated mining production cost breakdown

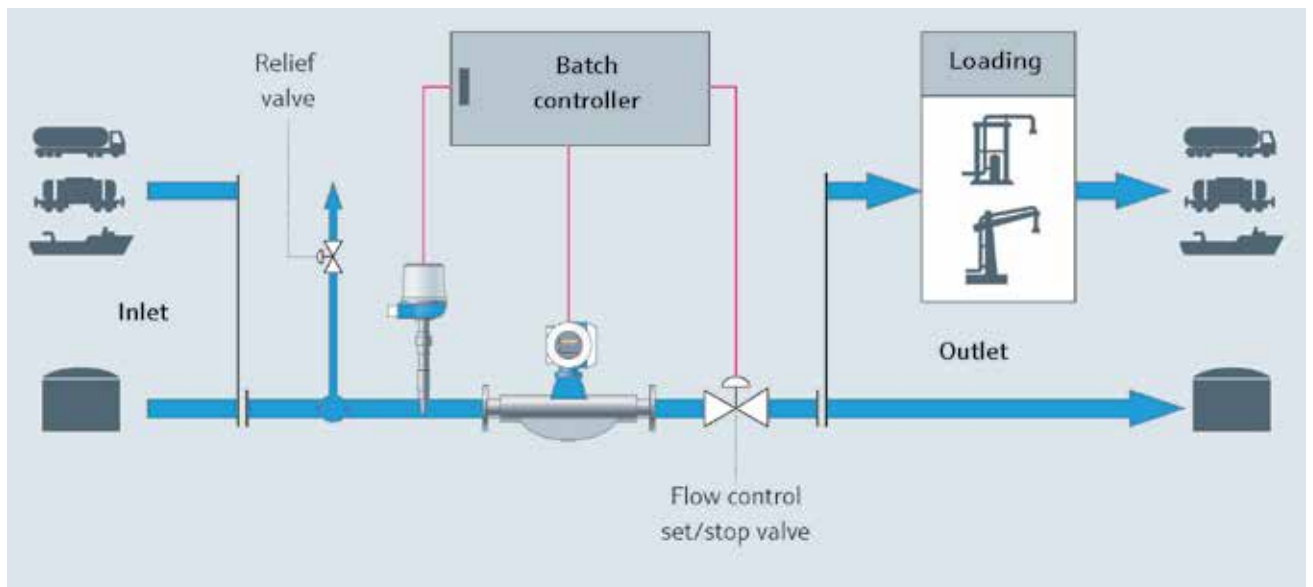


Caterpillar 793F Mining Truck Specs

Large mining vehicles easily consume large volumes of fuel. A good example is, a mining haul truck’s average consumption rate. On the normal gradients of 10% found on a mine haul road, a typical payload of 182t goes through approximately 350L of diesel fuel an hour. This goes up dramatically if drivers speed or put the vehicle under undue stress. Thus a Cat 793F Mining truck with a fuel tank capacity of 2839L will operate

for approximately 8 hours before it needs to be refuelled. Mines manage large fleets of vehicles, therefore the management of these fleets need to be cost effective. Fuel usage represents one of the largest operating costs in the mining industry, however it is rarely monitored or controlled effectively. Depending on the remoteness of the operations, mining companies can lose several days of production and

thousands of Rands while waiting for fuel to be delivered to site. Many mine sites require fuel and lubricant bulk storage in order not to halt any mine operations monitoring of fuel inventories, purchases and usages assist management to make well-informed decisions. This will increase mobile asset performance, reduce fuel consumption and losses, and improve the overall profitability of the mine.



Loading and unloading

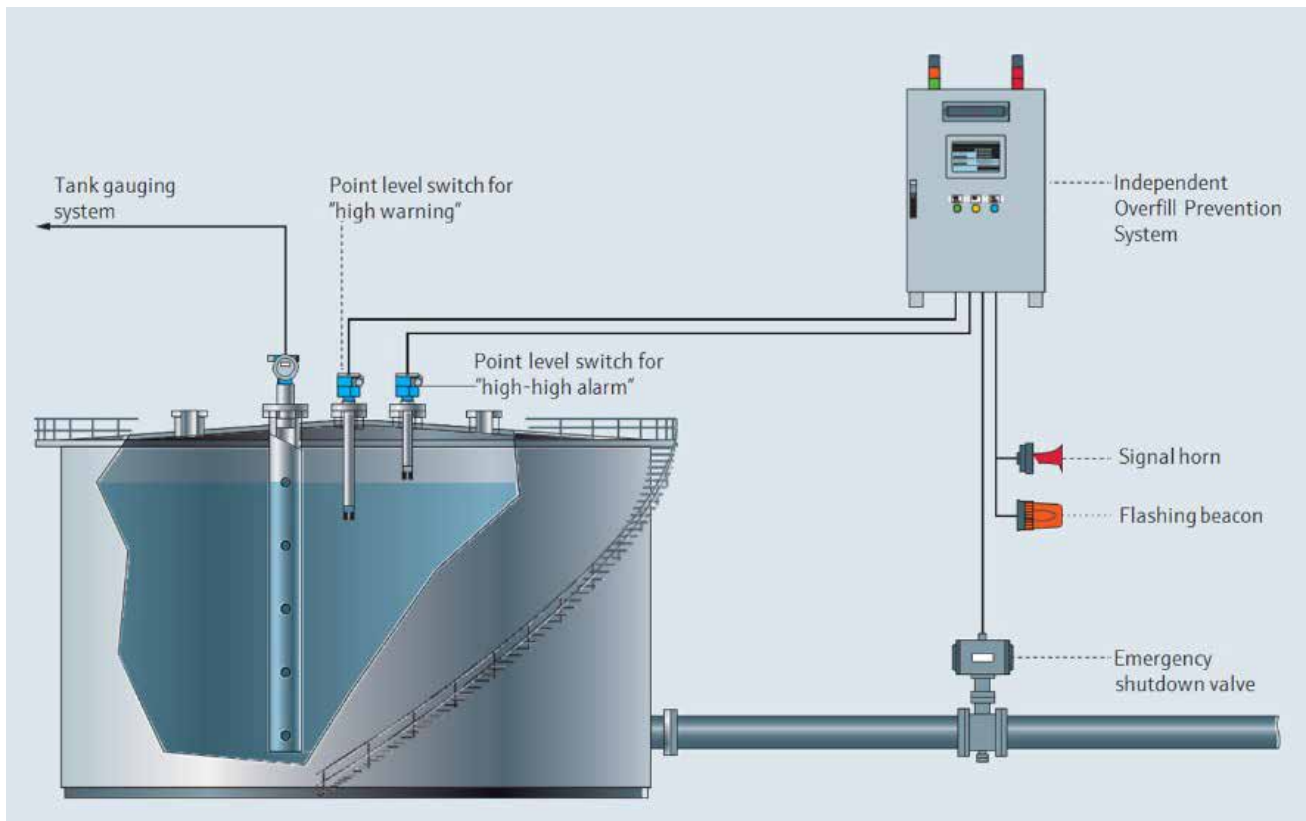


Truck loading system, Saudi Arabia

Endress+Hauser offers various solutions for mine sites. When it comes to fuel handling there are normally disagreements between the supplier of fuels and the mine. This disagreement can vary from discrepancies between the volume of fuel that was transferred to the quality of fuel (ie watered down fuel). With the current Diesel price sitting around

R14,48 a litre, a typical mechanical flowmeter used by most fuel suppliers has an accuracy of 0.5%. If a fuel tanker holding 50 000L of fuel is sold to a mine site there could be an inaccuracy of 2500L which equates to a possible loss of R36 200. To decrease measuring inaccuracies, Endress+Hauser's loading metering skids has a Coriolis flowmeter with an accuracy of 0.1%.

The Coriolis flowmeter has a special density calibration to compensate for varying fluids. This function assists in identifying if a fuel is potentially watered down, as the density of diesel should be at 0.832kg/L. The complete loading metering system has an overall accuracy of 0.25%, which is twice the accuracy of the traditional mechanical meters used.



Leakage Detection



Once the fuel is onsite it needs to be stored. This requires accurate inventory management. A mine site can have several fuel storage tanks onsite with varying capacities. In an ever-changing environment where a wealth of data is required to make informative decisions, mines often still do not have access to the right information. For effective decision making, the availability of high-quality online and real-time data is essential. Simple monitoring and visualisation is required to make informative decision about the management of fuel onsite. Endress+Hauser offers an inventory management solution with accurate, safe and reliable measurement through high-quality products designed together with our customers to precisely meet their requirements. The inventory management solution includes a level measurement that can use a Servo Gauge (Endress+Hauser Proservo NMS80). This device has an accuracy of 0.4mm. The inventory management solution also includes a temperature measurement (Endress+Hauser Prothermo NMT 530). This unique device is used for compensation for temperature, having multiple temperature measurement points

across the entire height of a tank. An additional benefit of Prothermo is that it can also detect water in a fuel storage tank.

Safety is an important issue at mining sites. Handling of fuels incorrectly on sites can cause harm to the environment especially if tanks are overfilled which results in a spillage. This can also potentially cause harm to individuals. Endress+Hauser offers a complete overfill prevention solution which is certified by independent, global operating safety experts. It is the best-in-class safety compliant solution, according to IEC 61511. An automated proof test guarantees that the safety instruments system functions perfectly. Proof-testing of 16 tanks takes less than 5 minutes.

The solutions mentioned form an integral part in decision making with regards to effective fuel management:

- The **load metering solution** assists with accurate metering and quality to identify water in fuel.
- The **inventory management solution** assists with effective fuel storage management. Overfill prevention system assists with the safety in fuel handling.



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Environmental challenges in the Mining Industry

South Africa’s economy is greatly dependant on the mining sector. The country is the largest producer of chrome, manganese, platinum and vanadium, as well as the largest exporter of coal globally.

Mining opportunities are mainly located inland and not necessarily close to rivers or other water sources. The mining process is water intensive, and it is no secret that South Africa is a water scarce country. We are rated as the 29th driest country out of 193. This is difficult to manage due to variable rainfall, and the uneven distribution of water throughout the country. Water is generally not available where it is often required. To alleviate these shortages in catchment areas, large inter-catchment transfer schemes have been implemented. These have negatively impacted the water quality in some catchment basins. For example; the rise of salinity in the Vaal and Orange systems.

Poor management of our ground water has resulted in over abstraction, and the wide spread pollution of this resource. Mining activities have been identified as a source of pollution, an example is the serious water quality problems in the Olifants River catchment area.

These problems need to be addressed by reliable measurement of water quality parameters in surrounding surface and ground water, as well as the continuous monitoring of water management.

For example, by monitoring the quality of treated effluent, mines can prevent untreated or inadequately treated water from being released. Complete compact monitoring solutions can be supplied by Endress+Hauser, combining quality instrumentation with communication gateways for remote access. Memosens and Heartbeat are innovative technologies that improves the integrity of the measurements.



Memosens Technology

allows for the digital transfer of data

between the sensor

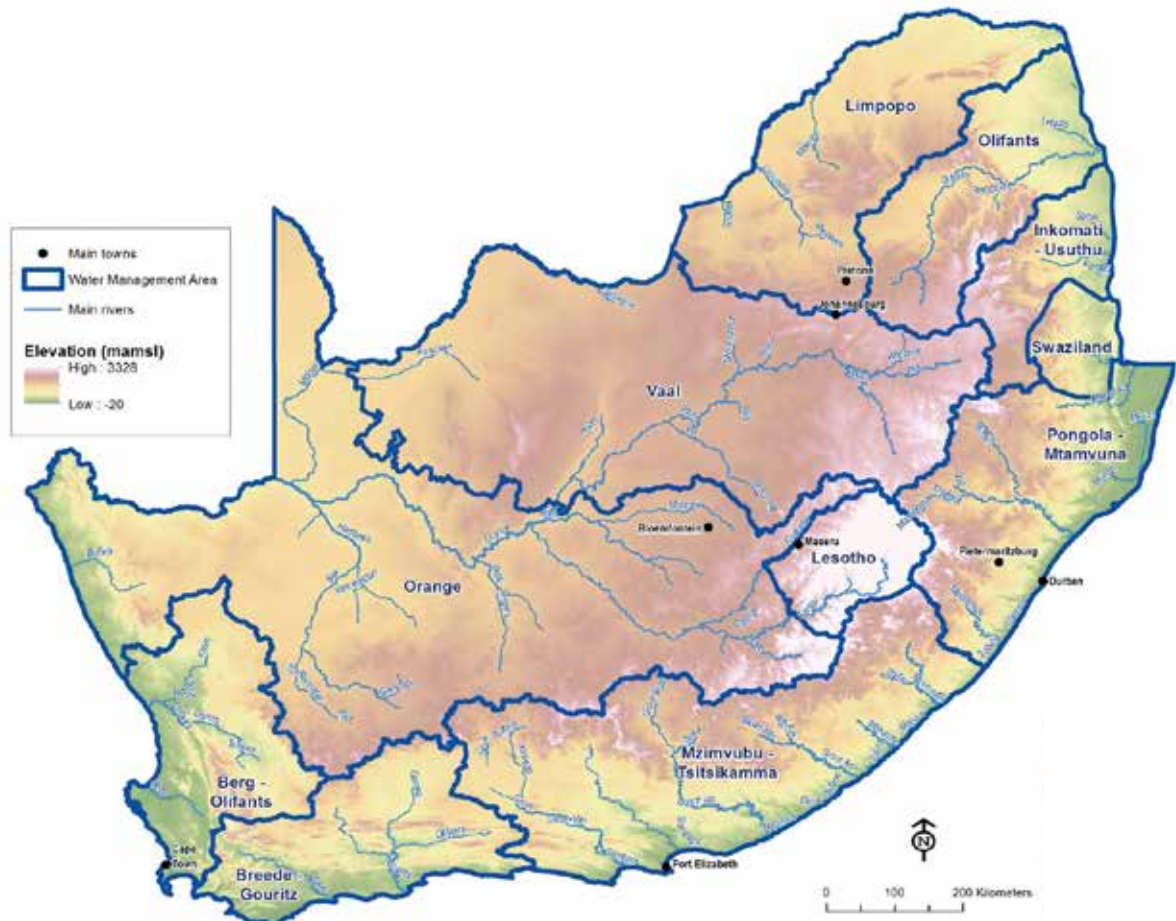
and the transmitter via a contactless induction signal.

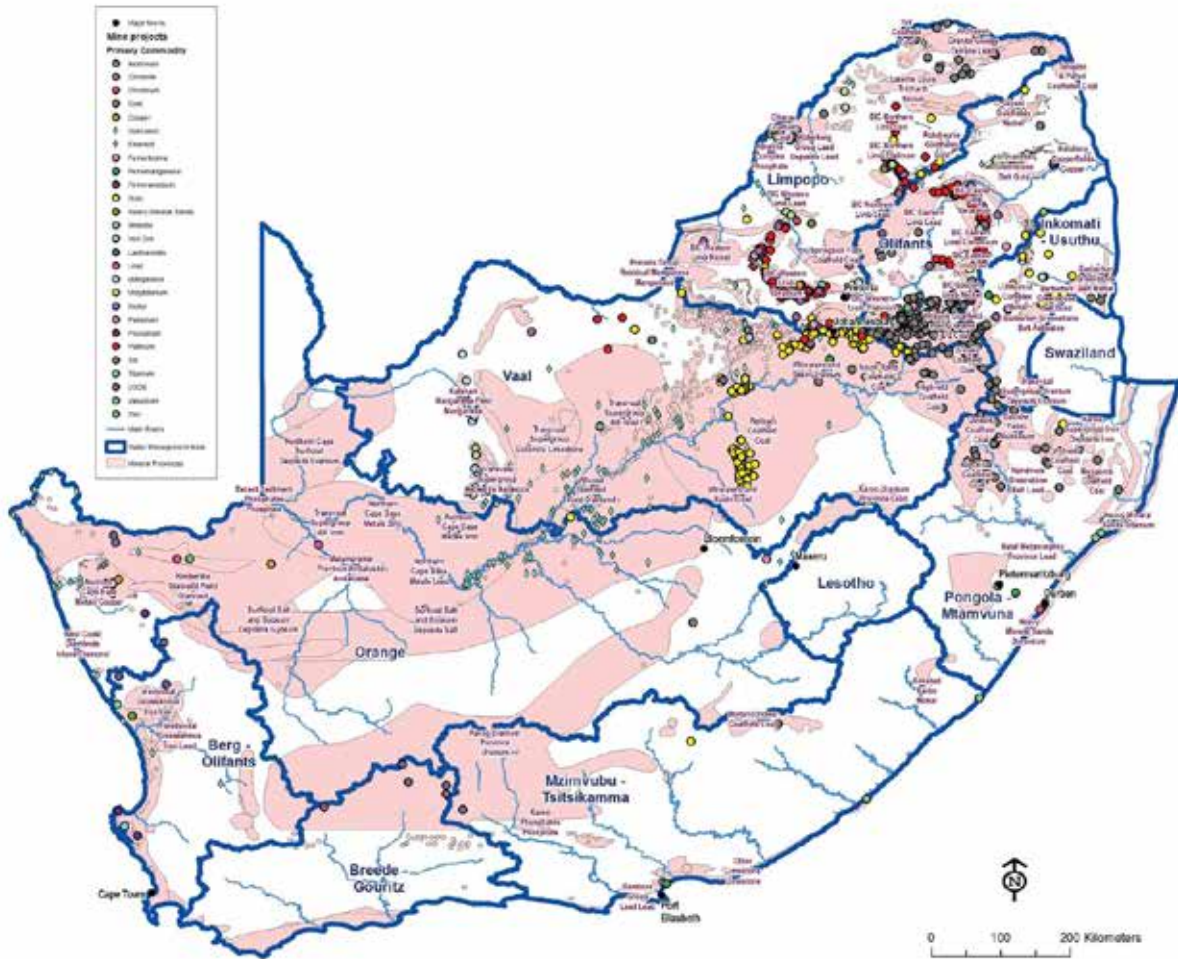
The problems experienced with corrosion or moisture ingress in connectors are eliminated with Memosens.

This results in improved process safety and a reduction in downtime. The data available from the sensor allows

for accurate predictive maintenance. Streamlined and predictive maintenance will ensure accurate and reliable

measurements to help actively manage water quality and protect the environment.





Heartbeat Technology is a unique combination of diagnostic, verification and monitoring functionalities. This technology can indicate the reliability of the measuring points and identify opportunities to increase the performance of the process. All data is monitored to support process optimisation and predictive maintenance strategies. Permanent diagnostics of the measuring device and the process guarantee efficient maintenance, as well as safe plant operation, without interrupting the process. The use of Heartbeat technology and remote monitoring, will increase the up-time of each device as deterioration or failure of an instrument will immediately be highlighted. As a result, downtime will be decreased.

Compliance to mine water use license and environmental laws is made easy with access to accurate data via Heartbeat Technology.

Ensuring that the quality of treated effluent complies to regulations and requirements defined in the water use license, the strain on our most scarce resource in South Africa can be minimised.

Reference: South African mine water atlas – Water Research Commission

i Water-pollution problems caused by mining include acid mine drainage, metal contamination, and increased sediment levels in streams. Sources can include active or abandoned surface and underground mines, processing plants, waste-disposal areas, haulage roads, or tailings ponds.



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People for Process Automation

Gauteng External Sales Team



Paul De Stefanis

Q: What's your favorite song to sing in the shower?

A: I don't sing, I only play guitar in the shower.

Q: What would your pet say about you if we asked for a reference?

A: Meow



Logan Moonsamie

Q: If you could be any other person for a week, famous or not, living or dead, real or fictional, who would it be?

A: Steve Jobs, because he is like a father figure & the apple doesn't fall far from the tree.

Q: What would you do if you found R10 mil in an abandoned car on your way to work?

A: I'd play the lotto more often cause I'm feeling lucky.

Piet Andjelkovic

Q: Which is your favourite Marvel character and why?

A: Superman! Imagine wearing your undies on the outside, and still being a superhero, capable of lifting ships from the ocean, stopping planes from falling and fighting villains, I would enter politics....

Q: If someone wrote a biography of you, what do you think the title would be?

A: "How to cope with the worst luck in the world, and other tales of bravery and stupidity, including short notes of wisdom on how to keep a straight face when opening your latest payslip"



Bokang Thibela

Q: What would be the two things you would want to have when stranded on a deserted island?

A: My phone and bottomless water.

Q: Would you let us hook up your 'Recently Played' music playlist to the office speakers, and what would we be listening to?

A: Of course, Gospel music (Sinach)



Stephan Naude

Q: If you were the CEO of a company, name one thing you would make compulsory in the office and one thing you would ban in the office.

A: Compulsory no work on Mondays and Ban all work on Fridays

Q: If you could have any super power, what would it be?

A: Man from Intersec



Christiaan Grobbelaar:

Q: What is the funniest thing that has happened to you recently?

A: Well recent is a relative term – when I was a student I was rushing to my next lecture when suddenly, without reason (and no, there was no alcohol involved), I slipped and almost made a perfect split, like in the cartoons – literally! Totally confused and surprised as to the reason for falling I looked around for the reason – and found the guilty banana peel!

Q: Would you let us hook up your ‘Recently Played’ music playlist to the office speakers, and what would we be listening to?

A: Creed – Human Clay

Beverly Govender

Q: If you could have any super power, what would it be?

A: I’d love to have the power to duplicate myself.

Q: Describe your life using film titles

A: EAT, PRAY, LOVE



Duncan Venter

Q: If you could be any other person for a week, famous or not, living or dead, real or fictional, who would it be?

A: Enzo Ferrari

Q: If you could only choose one song to play every time you walked into a room for the rest of your life, what would it be?

A: Don’t Stop Believing (by Journey)

Fuel Management with Endress+Hauser Solutions

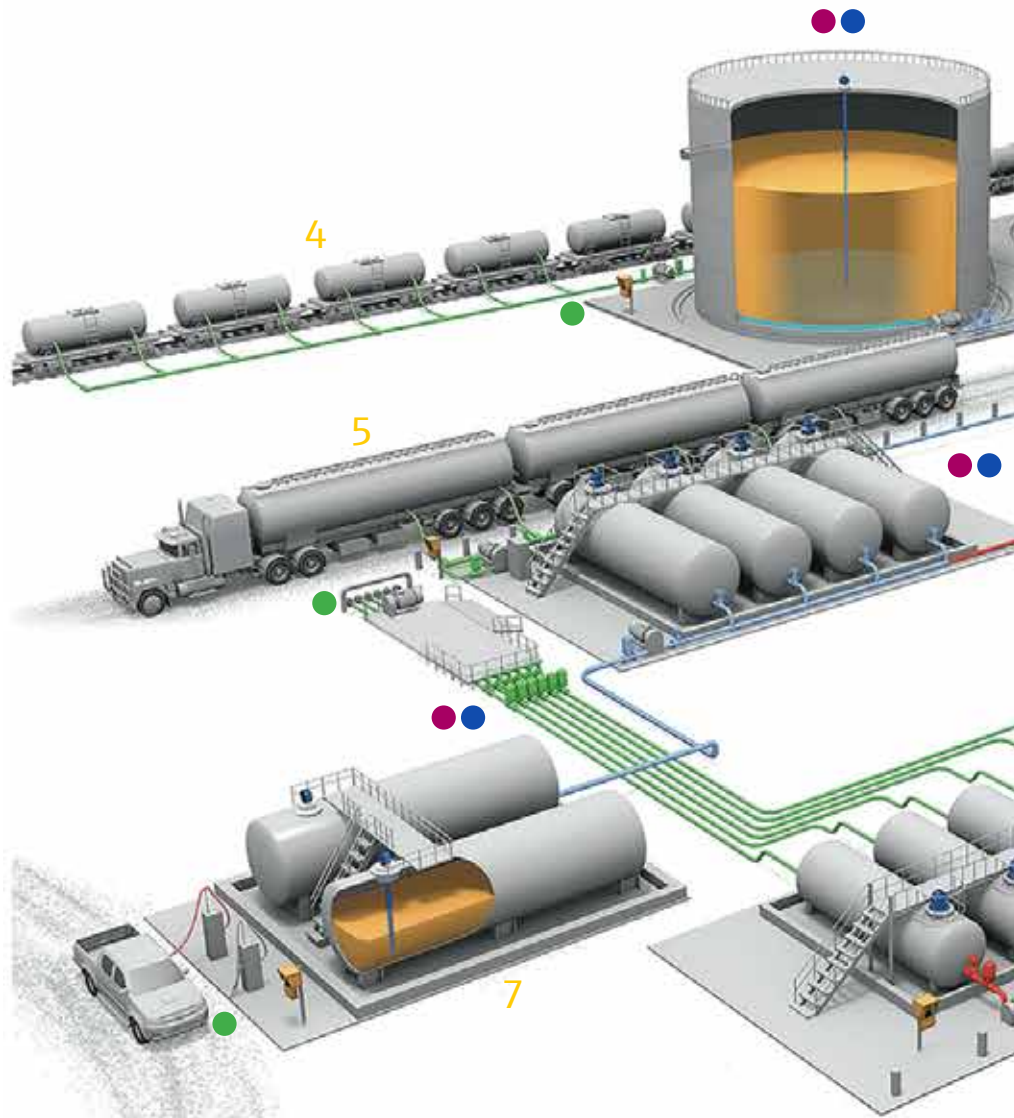
Extracting More from Less

Legend:

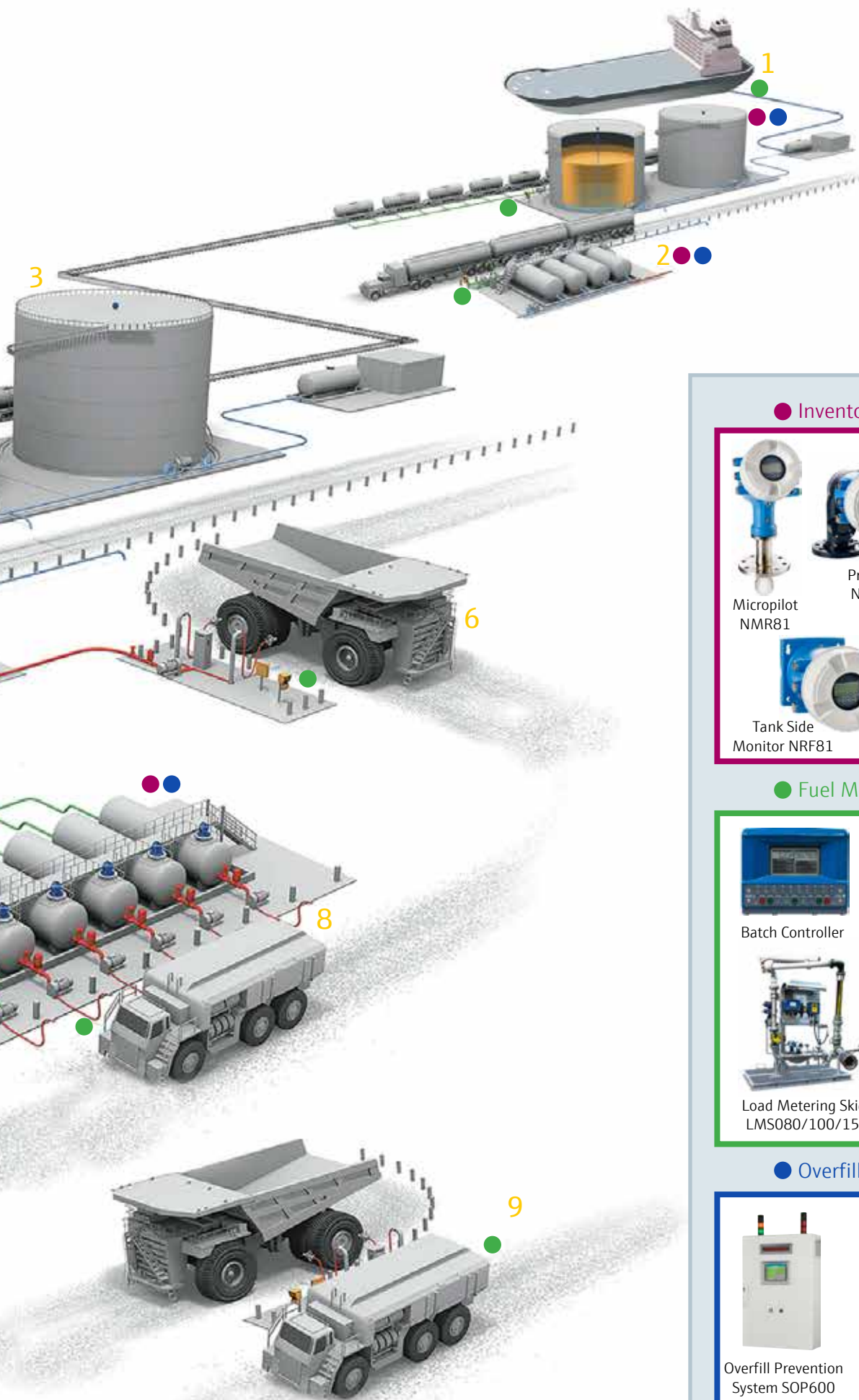
- Delivery
- Storage
- Transfer
- Dispensing

Key:

- 1 Ship to Terminal
- 2 Road Distribution
- 3 Site Bulk Storage
- 4 Rail Offloading
- 5 Tanker Delivery
- 6 Heavy Vehicle Refueling
- 7 Light Vehicle Refueling
- 8 Transfer to Service Trucks
- 9 Pit and Heavy Vehicle Refueling



Pull-out Section



● Inventory Monitoring



Micropilot NMR81

Proservo NMS80

Prothermo NMT532



Tank Side Monitor NRF81

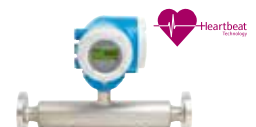


Tank Scanner NXA82x

● Fuel Management



Batch Controller



Promass F300 with Heartbeat Technology



Load Metering Skids LMS080/100/150



Omnigrad S TR61

● Overfill Prevention



Overfill Prevention System SOP600



Nivotester FTL325P



Liquiphant FTL51

Compromise is not an option

With a reliable partner to help ensure constant food quality and compliance

The food and beverage industry places a major demand for hygiene, cleanliness and industry-specific cleaning requirements on their processing systems. These requirements far exceed the conventional demands of a simple mechanically engineered plant. Compromise is not an option when it comes to hygienic design and how effectively a system can be cleaned. Food safety is a top priority and a key driver for consumer confidence. Central to the manufacturing of safe products, is the hygienic design of food and beverage processing facilities. Hygienic design provides a foundation for the overall quality control system and supports the long-term maintenance, as well as the future upgrade of the factories.

In the beverage industry, as soon as sugar, fruit aromas or vitamins are introduced into the process, the susceptibility to microorganisms and risk of contamination increases. To protect the integrity of the beverages, sterile and hygienic process management is essential.

Problems stemming from microbial contamination of foods tend to be costly, particularly if these result in consumer recalls. Such occurrences ruin consumer confidence and ultimately compromise a brand or product. Due to the development and application of increasingly mild preservation technologies, processed foods are becoming more susceptible to microbial contamination. This therefore requires a higher degree of control in the manufacturing process. One way to achieve this added control is to “build in” hygiene into the equipment used in the food manufacturing facilities from inception.

Dr Jürgen Hofmann, engineer and chairman of the German Section of the European Hygienic Engineering and Design Group (EHEDG), has a deep appreciation for the cleaning requirements in the production of food and beverage products. According to him the key point of each strategy in avoiding contamination, is the hygienic design of the system.

What is the purpose of hygienic design?

- Product quality – Food safety
- Cost
 - » Longer production cycles between the CIP cycles.
 - » Higher yield of the plant
 - » Easier to clean means less water, less cleaning agents, lower temperature and faster cleaning
 - » More flexible plants due to easier and faster phase change between two products or flushing water and product
 - » Certified technology saves time in certified processes requirements

How do we achieve a safe hygienic design?

Endress+Hauser achieves this with observance and compliance to existing hygienic regulations and standards. Specific to the Food and Beverage Industries three key regulatory authorities, 3A, FDA and EHEDG play a pivotal role internationally.



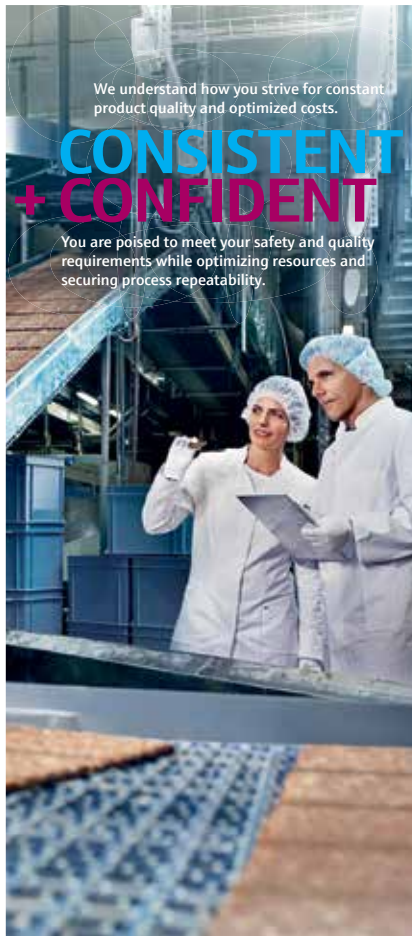
EHEDG - Certificate of Compliance
The fundamental objective of EHEDG (European Hygienic Engineering and Design Group) is the promotion of safe food by improving hygienic engineering and design in all aspects of food manufacture. EHEDG actively supports European legislation. Each Product has its own EHEDG Certificate



3-A sanitary standard for the Food and Beverages industries
3-A Sanitary Standards specify the criteria for the hygienic design, material and fabrication of specific equipment that comes into contact with food. One of the key focal areas that is defined by the regulating authorities refers to the cleanability of equipment. Critical to being cleanable, equipment needs to meet a specific surface finish that is defined as a degree of roughness. In food processing the general requirement is RA of 0,8µm or better.



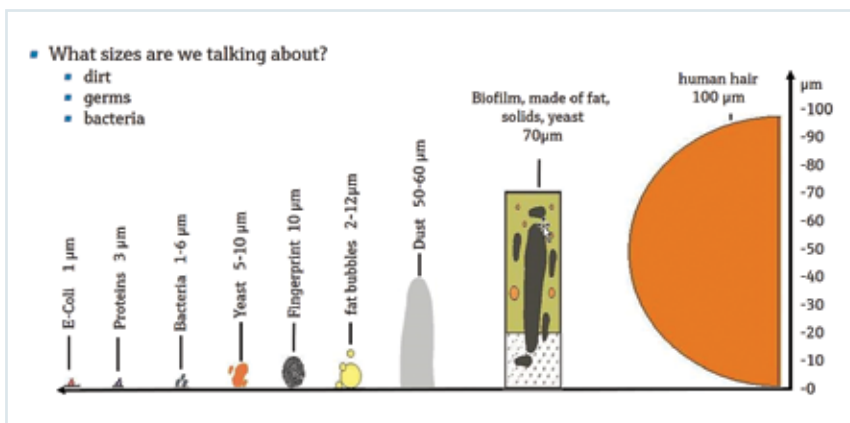
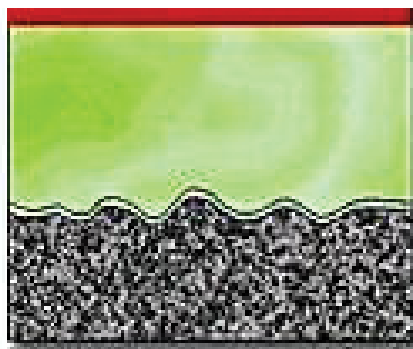
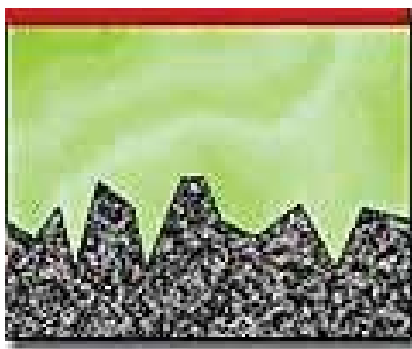
Food and Drug Administration (FDA)
The FDA is a federal agency of the United States Department of Health and Human Services. FDA is responsible for protecting the public health by assuring the safety, effectiveness, quality, and security of human and veterinary drugs, vaccines and other biological products, and medical devices. Its origins as a federal consumer protection agency began with the passage of the 1906 Pure Food and Drugs Act.




Why do we need a smooth surface?
 Microorganisms can build up with the rough edges of a device. See the figure right for an understanding of the scale in relation to a human hair.


- An inadequately polished device can provide an ideal breeding space for these microorganisms. An approved level of surface roughness can be achieved by processes such as polishing.
- Polishing is achieved in different ways:
 - » mechanical buffing
 - » electro polishing or forming
 - Electro polishing removes material from uneven surfaces
 - » Reduces surface areas
 - » Provides a hygienic surface finish
 - » Cleans the surface
 - » Passivates the surface of stainless steel with a chromium layer
 - » Removes impurities trapped below folded layers
 - Mechanical polishing in combination with electro polishing produces the best results

The goal of sound hygienic design is to increase the efficacy of hygiene procedures and reduce the risk of cross-contamination during the manufacturing process. The portfolio of equipment available to food and beverage manufacturers is on the increase both in terms of options as well as technological advancements. Leveraging these technologies can supplement the requirements that are articulated in the FSSC 22000 (Food Safety Standard Certification) and mitigate risks in manufacturing facilities. This helps food and beverage producers to comply with regulations, but more importantly ensures the production of safe food for distribution in the marketplace.



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Verification vs Calibration

Frequently technical experts come across the metrological terms of calibration and verification. For some these two concepts are known and easy to differentiate, but these two terms can also cause confusion. However, their definitions and needs may not be easily understood.

Verification made easy

According to the International Vocabulary of Metrology (VIM), the term verification is defined as “*Provision of objective evidence that a given item fulfills specified requirements*”

An interpretation of verification consists of checking calibration results as “objective evidence” to comply with a “specified requirement”, such as the Maximum Permissible Error (MPE), defined either by a manufacturer, a legal metrology organisation or an end-user (i.e. process application). This situation is illustrated in Fig. 1, where the device’s relative measurement errors obtained by the calibration rig turn out to be smaller than the MPE, meaning that the flowmeter (item) fulfills the specified requirement.

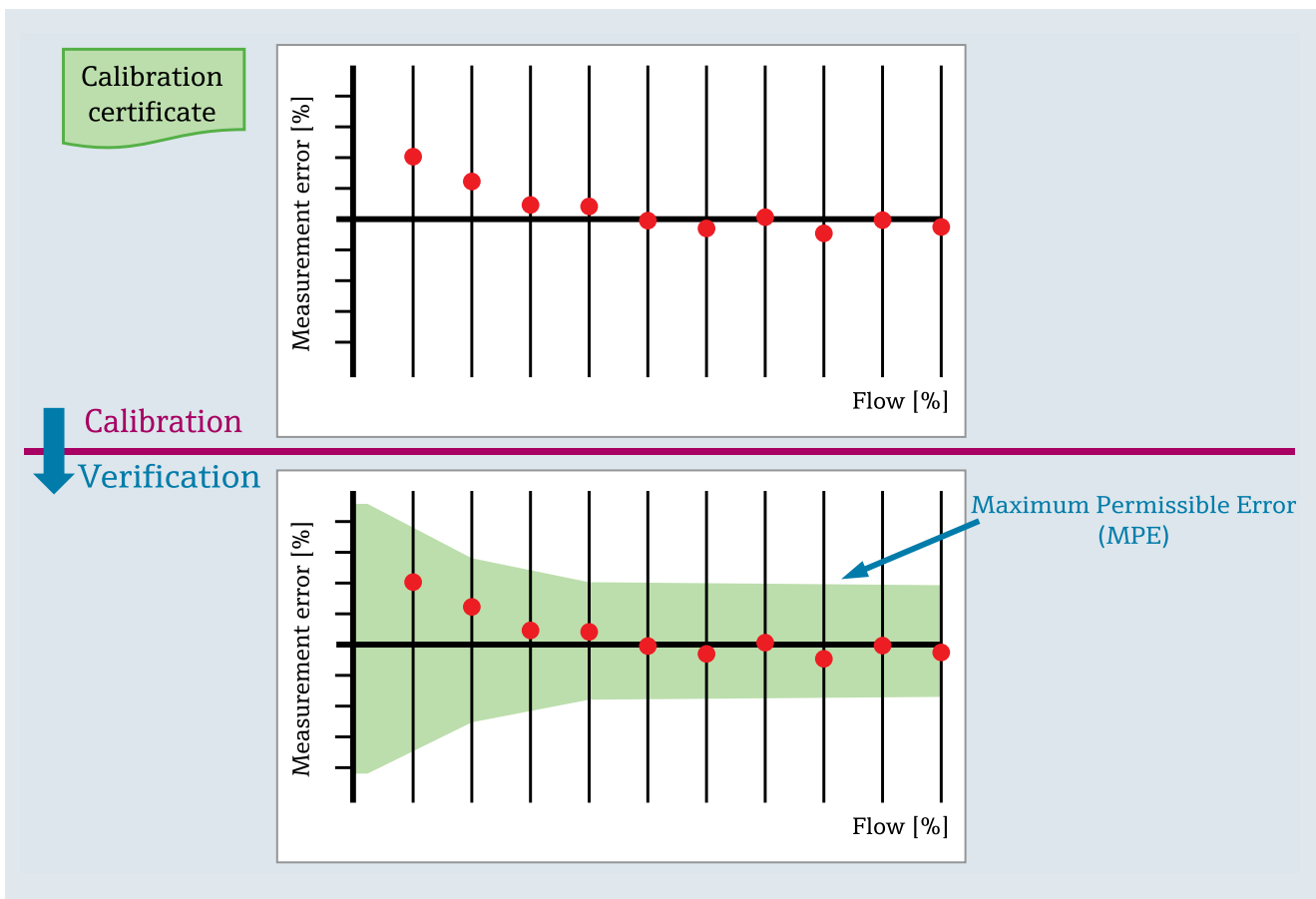


Fig. 1: Example: A verification task based on a flowmeter’s Maximum Permissible Error (MPE)

Endress+Hauser’s on-site Verification offerings;

Heartbeat Verification

Heartbeat Technology **verifies** the correct function of the measuring device according to the specifications and generates a **protocol without process interruption**.

The automatic generated protocol supports the documentation requested by internal and external **formalities, laws and standards**

In-line Ultrasonic clamp-on Verification

The in-line verification is a comparison of the results obtained from the Unit Under Test (UUT) against the In-line Ultrasonic clamp-on flowmeter.

A verification certificate which indicates the measured error between both the measurements is generated.

Calibration made easy

According to the VIM, calibration is a procedure to establish a relation between a quantity value given by a UUT and a reference quantity value (ref) obtained by a calibration rig, within its associated measurement uncertainty. The main objective is to check the accuracy of measurements by compare the device in question with that of a known traceable reference. One fundamental requirement for carrying out a calibration is that the reference system must have traceability to the fundamental units of measurement needed to reproduce the unit flow.

Calibration of devices assists:

- the requirements of industry regulators and standards like FDA, IFS, ISO 9000 etc.
- to prevent influence of inaccurate measurements on the quality of the final product
- to prevent energy or material losses due to improper control
- to prevent safety issues caused by poor monitoring

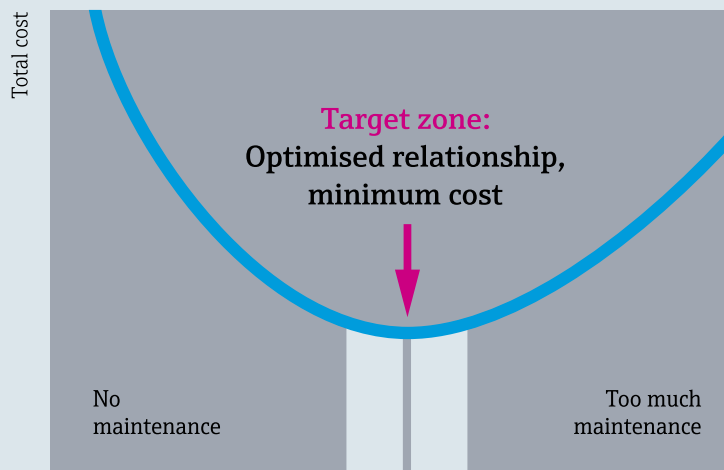
Endress+Hauser's Calibration offerings:

On-site:

Portable rigs and buffer solutions
On-site calibration is performed by highly trained engineers. Convenient and cost-effective, it removes the need to send instruments off-site as our specialists come to you, keeping downtime to an absolute minimum. It also offers the highest flexibility as calibration can be scheduled according to your process demands.

Laboratory:

Laboratory Calibration Services are one-time or repeating contract-based calibrations of customer's instrumentation, both Endress+Hauser and third party, carried out in a facility owned by Endress+Hauser South Africa. Calibration Services performed in laboratory have the advantages of the best calibration uncertainty and wide calibration ranges.



Degree of preventative maintenance

Measuring instruments are crucial to reliable process plant operations, but often calibrations are not taken into consideration.

With new legislation demanding increased control and calibration, manufacturers are required to comply and ensure stable and reliable instruments.

The challenge is to balance maintenance efforts with the return on investment.

Too little maintenance can result in costly downtime. This situation can be exacerbated if there is no breakdown strategy in place. On the other hand, unnecessary maintenance leads to additional expenses. Endress+Hauser's Installed Base Audit will help you reach the optimum point where the overall costs are at their minimum level.

Calibration Management Service

Calibration Management Service is an optimisation service where Endress+Hauser take day-to-day management responsibility of customer's calibration function. Goals of this outsourcing are improving

customer's plant operations, securing calibration process compliance to internal and external regulations while reducing its costs.

Let us help you *optimise* your plant maintenance.



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Quality calibration with the click of a mouse

Measuring, calibrating and documenting – from lab to process



The quality of an analytical sensor calibration is always referenced to the quality of the buffer solution that is used. The human interaction executing the calibration is something that could not be measured until the arrival of the digital sensor.

Harsh chemical applications, elevated ambient temperatures or difficult to access installations are factors that can negatively affect the quality of the calibration.

Why take the risk with a poor calibration that will have a negative impact on production if it can be eliminated?

Simply with a click of a mouse, all sensors can conveniently be calibrated in the lab under constant conditions. All calibration values, measuring values and sensor information can be retrieved without any effort.

Memosens – Intelligent digital analytical sensors

Non-contact data transmission between sensor and cable.

Robust against external influences such as moisture, corrosion and salt bridges.

Maintenance work such as calibration and sensor replacement can be planned.

Memosens sensors store calibration data and operating hours under various conditions.

Sensors can be digitally tagged per application.

Memobase Plus consists of an easy to understand software program with a database and corresponding interfaces, which you can use to connect the sensors directly to any standard PC via USB, turning the computer into a calibration and measuring station. Sensors for the parameters of pH/ORP, dissolved oxygen (amperometric), conductive and toroidal conductivity and chlorine can be operated in any desired combination. Reports are created simply by clicking a button

Automated “as found – as left” deviation monitoring

How was the measurement quality of the sensor immediately before calibration and, in comparison, what was it like immediately after calibration? With the automated “as found – as left” measurement.


No discrepancy between laboratory

and process values, the same cables and the same sensors as those in the process are used in the lab with Memobase Plus. This makes the measuring values genuinely comparable.


This allows Memobase Plus to enable you to centralize maintenance of Memosens analytical sensors, thus making it more efficient – while giving you improved calibration quality and automated documentation that leaves nothing to be desired.

Work in compliance with FDA CFR 21 Part 11 and be prepared for your next audit. Memosens and Memobase Plus – the winning combination



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Pay it forward

Auction for a good cause

The Look Forward Creativity Centre is a non-profit organisation that provides quality care, education, counselling and support to abandoned, orphaned and neglected children. The Centre gives new hope to many children, helping them to live a productive life in the community.

The home is filled with children of different ages; comprising of infants to young adults. They have care givers, but are also assigned age appropriate tasks, which teaches them responsibility and how to be independent. Some of the young adults have learnt the skill of pottery, which allows them to generate an income from the pots they make.

Endress+Hauser visited the Centre to contribute towards the educational needs of the children. Being a family company, which is committed to people, Endress+Hauser understands the importance of communities, and thus is actively involved in various community supporting



initiatives throughout the year. The money was raised at an Auction that was held at the annual Sales and Marketing Conference this year in Sandton. Many international and well as local Endress+Hauser employees participated in the auction to raise money for charity.

The Auction was a fun event in which various unique items were auctioned off to the highest bidders. From bizarre superhero costumes, to an exclusive wild life photograph – sponsored by our very own famous photographer Hennie Blygnaut from Endress+Hauser Pyrotemp. The wild life feature was a hit with our European colleagues, who purchased the beautiful framed picture as a farewell gift for one of the Area Managers Marek Gryniuk based in Conducta Germany.

We thank all our employees for a fantastic evening. We appreciate your generosity and know because of you we have made a difference in the lives of these amazing children.





Contactless Radar Level Measurement FMR 10/20

Level measurement in Intermediate Bulk Containers (IBC)

Micropilot FMR10 offers continuous non-contact level measurement and is a perfect application fit for Intermediate bulk containers. FMR10 belongs to the first radars with Bluetooth® commissioning, operation and maintenance app. Signal curves can be shown via the app on every Bluetooth®-enabled smartphone or tablet (iOS, Android). With the compact design, thanks to the unique chip, the device is ideal for limited space applications.

IBC tanks as they are known hold a variety of Chemicals in plants. These tanks are usually not measured; thus plants usually find themselves in a situation whereby they experience a shortage of chemicals. With the FMR 10/20, is a cost-effective device that can indicate the IBC storage levels. This measurement will assist in effectively monitoring and controlling their chemical storage.

Field of Application:

Radar for continuous level measurement in liquids.
For use in storage tanks

- Ingress protection: IP66/68 / NEMA 4X/6P
- Measuring range: up to 20 m (66 ft)
- Process temperature: -40 to 80 °C (-40 to 176 °F)
- Process pressure: -1 to 3 bar (-14 to 43 psi)
- Accuracy: up to ± 2 mm (0.08 in)
- International explosion protection certificates



**Endress+Hauser
SmartBlue App:**

Available in the Apple App Store and Google Play store



**For more information,
please contact:**

marketing@za.endress.com



<https://eh.digital/2Nm32vM>



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Picomag

The smart plug-and-play flowmeter for utility measurement



These submeters are chiefly for monitoring patterns of use, establishing baselines, allocating internal costs and for collecting data that can be used over time for optimization purposes. Submeters are essential for energy monitoring systems, as they provide the means to analyse consumption patterns, set goals for improvement (reduction of consumption) and subsequently for evaluating the effectiveness of optimization measures. Also leaks and unnecessary consumption can be eliminated by means of the analysis of data from submetering.

In industrial process measurement and automation, demand is steadily rising for simple, reliable and maintenance-free measuring instruments in a pocket-sized format. The new Picomag from Endress+Hauser fulfills such requirements, making no compromises. Not only does it measure the flow of electrically conductive fluids, but also their process temperature. In addition, Picomag offers customers easy commissioning with Bluetooth using its SmartBlue App, as well as seamless system integration thanks to IO-Link technology. This makes Picomag ready for Industry 4.0.

Submetering of utilities for internal costing, analysis of baseline, monitoring of leaks: Plants are often equipped with compressed air, natural gas and water networks, which service multiple departments and consumers within the plants. In addition to master flowmeters installed in the main lines of these networks, submeters can also be installed in auxiliary branches for monitoring purposes. These submeters are chiefly for monitoring patterns of use, establishing baselines, allocating internal costs and for collecting data that can be used over time for optimization purposes. Submeters are essential

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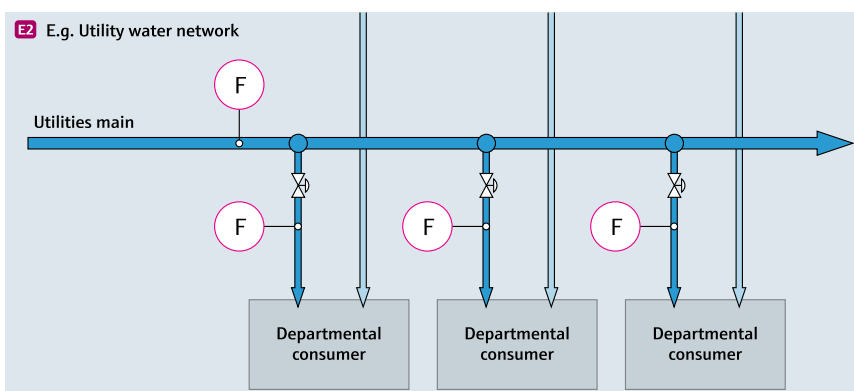
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For more information, please contact:

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<https://eh.digital/2uph7Bh>



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January	February	March	April	May	June	July	August	September	October	November	December
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2 Tu	2 Fr	2 Fr	2 Mo	2 We	2 Sa	2 Mo	2 Th	2 Su	2 Tu	2 Fr	2 Su
3 We	3 Sa	3 Sa	3 Tu	3 Th	3 Su	3 Tu	3 Fr	3 Mo	3 We	3 Sa	3 Mo
4 Th	4 Su	4 Su	4 We	4 Fr	4 Mo	4 We	4 Sa	4 Tu	4 Th	4 Su	4 Tu
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6 Sa	6 Tu	6 Tu	6 Fr	6 Su	6 We	6 Fr	6 Mo	6 Th	6 Sa	6 Tu	6 Th
7 Su	7 We	7 We	7 Sa	7 Mo	7 Th	7 Sa	7 Tu	7 Fr	7 Su	7 We	7 Fr
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11 Th	11 Su	11 Su	11 We	11 Fr	11 Mo	11 We	11 Sa	11 Tu	11 Th	11 Su	11 Tu
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31 We	31 Sa	31 Sa	31 Tu	31 Th	31 We	31 Tu	31 Fr	31 Mo	31 We	31 Th	31 Mo

■ Food & Beverage Industry
 ■ Primaries Industry
 ■ Oil & Gas Industry
 ■ Water & Wastewater Industry
 ■ Chemical Industry
 ■ Digitalization



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Endress+Hauser
 People for Process Automation

--- Cut Here ---

Competition Time

Win with Endress+Hauser!

1. Answer the questions below
2. Take a fun picture with the *wazzup*
3. Email the picture to marketing@za.endress.com

Q1: What innovative technology of Endress+Hauser ensures the continuous verification of the process measurement?

Q2: Which solution of Endress+Hauser (mentioned in the featured article) has an accuracy of 0.25%?

Q3: What are the three International regulatory authorities in the food and beverage industry?

The winner will be announced on Facebook and your picture will be published in the next edition of *wazzup*.

The following competition terms and conditions apply:

1. Use the following subject line: *wazzup* Competition 2/2018
2. Answer all 3 questions correctly
3. Supply us a photo with the *wazzup* and your sales person

Please send your answers to marketing@za.endress.com before 21 November 2018.




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