

HOW TO TAKE YOUR COMPANY TO **BEST IN CLASS**

Implementing Compressed Air Management



To Ensure The Production Of The Right Quality Of Compressed Air In
The Most **Economical, Energy Efficient** and Sustainable Way Possible.

Introduction To Compressed Air Management

- ✓ What does it cost not to be Best in Class?
- ✓ What factors influence operational reliability and what can be done to increase it?
- ✓ Training - How to ensure training level and competence
- ✓ Financial aspects of compressed air
- ✓ Impact of Compressed Air on Sustainability Goals
- ✓ Monitoring - What areas do we need to monitor and collect information from?
- ✓ Division of responsibilities and job descriptions
- ✓ Compressed air key performance indicators and reporting flow within companies
- ✓ Step by step implementation of CAM

What Does Your Compressed Air Cost To Produce?

- LCC analyses & Total Cost of Ownership
- Practical calculation examples
- Service & Maintenance
- Capital expenditure
- Energy costs
- Spare parts

Monitoring system - EMS system - Control system - Sequencer

- ✓ What are the differences between the systems?
- ✓ How to ensure data security
- ✓ Communication, APIs, SSOs-How have other companies done it?
- ✓ What is needed - what requirements should be set? Compressed air is not like other energy forms
- ✓ How do we know that our system works? 70% of systems do not.

GAP Analysis - System review

- Review of a GAP analysis.
- Status Operational reliability
- Status Financial key figures
- Status Sustainability

SMART - Leakage control

- What are leaks costing you? Still the biggest problem in most systems. Why?
- How to get down to <5% leakage
- Different types of ultrasonic instruments

Compressed Air Training

Training Day 02

Purchasing Compressors

- ✔ What size should we choose?
- ✔ How do we ensure redundancy?
- ✔ Which technology is right for us?
- ✔ Isentropic efficiency?
- ✔ Calculation of receiver size
- ✔ What measurement data is needed for decision making?
- ✔ Consumption profile
- ✔ How do we design the request for quotation?
- ✔ How to verify promised energy consumption?
- ✔ Simulation of compressor options
- ✔ Simulation of future demand

- ✔ The importance and creation of LCC analyses
- ✔ Design of the service commitment
- ✔ Spare parts needs
- ✔ Stage replacements
- ✔ Control system needs and specification
- ✔ Preparation for compressor purchase
- ✔ Installation procedure - pipe quality and dimensioning
- ✔ Heat recovery possibilities
- ✔ Specification of air quality
- ✔ Drying and filtration of the compressed air
- ✔ Other measuring equipment - dew point, pressure,

System Design

- Compressor placement
- Advantages of using flowcontrollers
- Ventilation
- Choice of condensate management
- Pipework & sizing

Energy Management

- How do we measure compressed air?
- How do we ensure targets?
- Automation of reports
- Requirements for Energy & Flow
- Measurement

Asset Management

- Asset strategy
- Operational safety
- Processes & know-how



Zone monitoring

- The rationale for zoning the system
- Structure of the zoning system
- Economics & expected results
- Energy & Flow metering requirement



Compressed Air Management training Stockholm 13 - 14 November

Price : € 1 265 per person. Invoiced after confirmation.
Price excluding VAT & Hotel.
Includes all food & beverages and documentation

Venue: Radisson Hotel—Stockholm Arlanda. 5 min shuttle from Airport.
Ensure your participation through : events@lms-nordic.se
Limited number of participants.

Our Trainers



Gorazd Bregar

Gorazd Bregar graduated in 1995 specializing in computer information systems. He is the founder of CALMS, the world's largest independent platform with more than 1200 compressed air systems connected worldwide. With 30 years of active involvement in the compressed air industry, Gorazd has participated in and led numerous projects constructing new compressor stations. He has also developed projects for controlling large turbo and screw compressor systems. He has taken the compressed air auditing standards beyond the ISO and CSA standards.



Wojciech Halkiewicz

CEO and Founder of 7bar . Master of Science Engineer in fluid flow machines is a specialist with more than 34 years experience in Compressed Air. 20 years on side of compressors industry . Started to do audits of compressor rooms since 2009 to help end users in proper and effective use of compressors. optimizations. Designing the compressed air piping since more than 30 years. Implementing proper measurements of compressed air systems since over 12 years. Educating and popularizing Compressed Air in industry through conferences, and trainings.



Daniel Winkler

Daniel Winkler is the founder of LMS-Nordic AB and is the Chairman of Towards Zero . Have led compressed air trainings and seminars since 2001 and been in the compressed air industry since 1982. He developed the first webbased leakage management programmes and founded both the LeekSeek and LEAQS programs He was involved in the first internet based EMS systems with Vattenfall in 2002. He has performed compressed air audits across the world in a range of industries and sizes. He is today engaged in on-line compressed air training on-site training.