Improve your availability

Webinar

Matthias Daun
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Man PrimeServ
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Introduction
Your presenter

Name
Matthias Daun

Function
Head of Engineering Turbomachinery APAC

Expertise
Repairs and Inspection; Revamps and Modernization; Customer Consulting;

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MAN Energy Solutions

Company profile

Marine systems
- Two-stroke and four-stroke engines for marine applications
- Propellers and complete propulsion systems incl. fuel gas systems
- Turbocharger

Power plants
- Two-stroke and four-stroke engines for stationary applications
- Diesel and gas power plants

Turbomachinery
- Compressors, gas and steam turbines, and expanders
- Complex machine trains
- Chemical reactors
MAN Energy Solutions

Turbomachinery applications

Upstream (production)
Compressors, expanders, gas turbines

Midstream (transportation)
Compressors, gas turbines

Downstream (processing)
Compressors, expanders, steam turbines, gas turbines, reactors

Industrial products
Compressors, vacuum blowers, reactors

Industrial gases
Compressors, steam turbines, reactors

Industrial power generation
Steam turbines, gas turbines

MAN PrimeServ
Comprehensive service support
MAN Energy Solutions
PrimeServ Omnicare: your one-stop service

- Services for your entire fleet – including non OEM turbomachinery and equipment
- Strong network of multi-brand experts
- Regional Omnicare managers ensuring that global best practice is brought to you

**Benefits**

- Increased capacity, safety, reliability and availability
- Improved efficiency and cost-effective operation
- Same standards and quality as for OEM equipment
Video: Service with passion

Service with passion  
MAN PrimeServ
Aftersales MAN PrimeServ
Region APAC Structure – Functional reporting lines

AP – Region Head Turbo & PrimeServ
Dr. Marco Ernst

AP – PS Engineering
Matthias Daun

AP – Bids & Projects
Daniel Wyler

AP – Region Development
Chen Zhang

AP - Omnicare
Matthias Daun

NE China – Ronnie Su
PS China – Stephen Zhou

North East Asia
Seung Suk Kim (Chris)

South East Asia
Ernst Geyer

Indonesia
Ernst Geyer / Goetz Kassing

Pacific
Karl-Heinz Berdais

12 Office locations
MAN PrimeServ

Strategic expertise

We at MAN PrimeServ understand the key challenges that are important to your business and affect your CAPEX and OPEX:
MAN PrimeServ

Strategic expertise

Availability
Meet rising performance expectations within increasingly complex and dynamic operating environment

Safety
Comply with contemporary safety standards and regulations

Efficiency
Improve the efficiency of your turbomachinery for more attractive margins

Capacity
Adjust the capacity of your equipment for optimum operation and to further develop your business

Sustainability
Adapt your equipment to increasingly stringed emission regulations and reduce your CO2 footprint
Do you meet your availability targets?

You supply cities with energy and heat. Or, you produce fertilizer to help feed a growing world population. Whatever your industry, downtime of your equipment is costly. Unscheduled downtime even more so. It impacts not only your business but others further down the supply chain.
Your turbomachinery is a core element of your production process. Our upgrade solutions help you to meet rising performance expectations within an increasingly complex and dynamic operating environment.

- Extend service intervals
- Shorten downtimes
- Improve reliability
- Avoid unplanned shutdowns
Availability
Extend service intervals

Service concepts
Development of tailor-made service concepts adjusted to your specific equipment, operating conditions, and operation requirements

PrimeServ Assist
Remote monitoring support based on near real-time data transmission and evaluation via our CEON platform for detection of anomalies, condition assessment, and optimization

Design improvements
Implementation of latest developments of technology to extend service intervals of critical components as well as entire service life of equipment
Availability

Extend service intervals: PrimeServ Assist

Advanced remote monitoring and optimization of machine condition and performance:

**Features**
- Near real-time data analytics
- Algorithm based anomaly detection and reporting
- Instant technical support
- Maintenance and performance optimization advice

**Benefits**
- Optimization of maintenance intervals
- Ad-hoc notifications for maximum safety and availability
- 24/7 “follow the sun” technical support
Availability
Shorten downtimes

Global field service network
Our global network of service centers provides 24/7 OEM-quality field services for turbines, compressors, and expanders to shorten your downtimes to a minimum

MAN PrimeServ TechLine
You get answers, you get hands-on problem solving, and you will stay productive with a call on our 24/7 TechLine – a worldwide team of machine specialists ready and available to jump in and help.

Maintenance improvements
Enhance your machine maintenance by implementing our latest state-of-the-art improvements for your equipment. Gain easier access to your machine and optimize its downtime.
Availability

Shorten downtimes: Fast Cooling

Active fast cooling for steam turbines:

Features
− Active fast cooling by passing cooling air or nitrogen through steam turbine
− Machine specific cooling curve

Benefits
− Significantly shortened cooling time for reduced overall downtime and less production losses
− Usage of existing machine instrumentation for monitoring of cooling parameters
− Immediate amortization with first use
Availability

Improve reliability

Modernization

Replacement of old components and systems with increased risk of failure, outdated design, and limited spare parts availability by new-state-of-technology ones with higher MTTF

Redundancy

Upgrade of obsolete systems and control loops by replacing them against contemporary solutions with fully redundant design and 2oo3 voting

New functionalities

Implementation of new features as for example test routines for automatic online testing, monitoring, and evaluation of response and closing times of valves, fouling detection, or non-contact blade vibration monitoring

Engineering services

Assessment of existing unit design and condition to identify, validate, and propose upgrade solutions considering your specific operating conditions and business requirements
Availability

Improve reliability: Redundant Valve Positioner

Fully redundant positioning system for hydraulic control valves:

**Features**
- Redundant valve positioner and feedback sensors
- Hydraulic MAX voting to control valves
- Safety validation study

**Benefits**
- Significantly increased availability
- Hot standby of redundant positioner
- Exchange of components during operation
- Diagnostic functions for condition and failure analysis
Availability
Avoid unplanned shutdowns

Machine diagnosis
Algorithm based machine diagnosis and anomaly detection to early recognize and plan maintenance measures

Periodic inspections
Periodic inspections and on-site support to determine equipment condition and residual service life

Footprint solutions
Footprint solutions for replacement of outdated, prone to error turbines and compressors by new machinery
Availability
Avoid unplanned shutdowns: MAX1 blading technology

Axial compressor footprint solution with new MAX1 blading technology:

**Features**
- Compact and robust design
- Outstanding and experimentally confirmed surge-robustness
- Smaller and lighter compared to conventional axial compressors

**Benefits**
- High train availability
- Increased efficiency due to optimized sealing
- Reduced CO2 emissions due to less power consumption
Availability

Thank you!

Survey
Please stay in the webinar for a moment to give us your feedback on today's webinar and topics you are specially interested in.

Further information
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Contact
For any questions or further information, don’t hesitate to speak to your local contact or contact me directly.
Thank you very much!