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Bearing NEWS

BEARING INDUSTRY MAGAZINE

AGENDA FOR 2018

SPECIAL EDITION

ISSUE 201712 • P918438

2018 EVENTS EXHIBITIONS CONFERENCES AGENDA

150 KEY INDUSTRIAL EVENTS IN **45** COUNTRIES

PROF. DR.-ING. GERHARD POLL

TODD C. SNELGROVE

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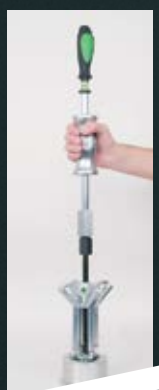
The ball bearing is in
a housing and on a
shaft at the same time

The ball bearing is inside
a casing, but has no
shaft for support



PULLPO TECHNOLOGY

70-02

Non-contact extraction

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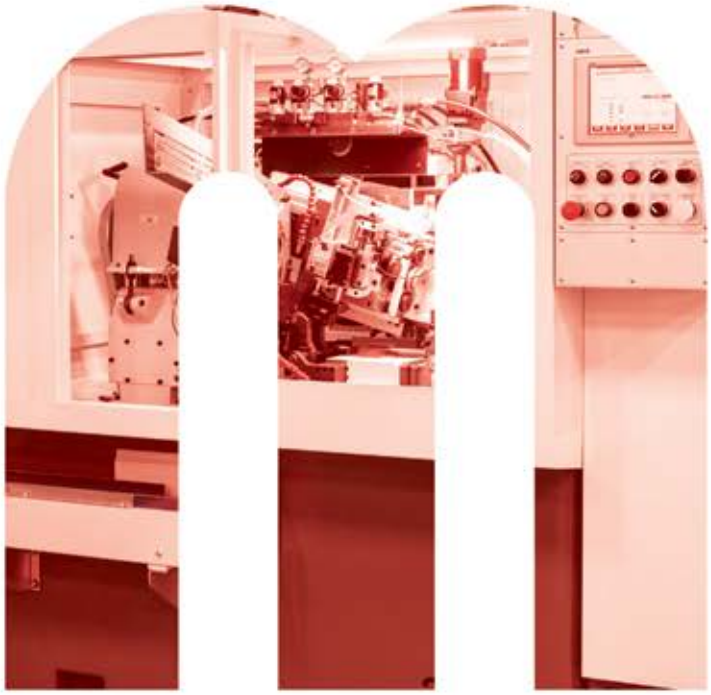

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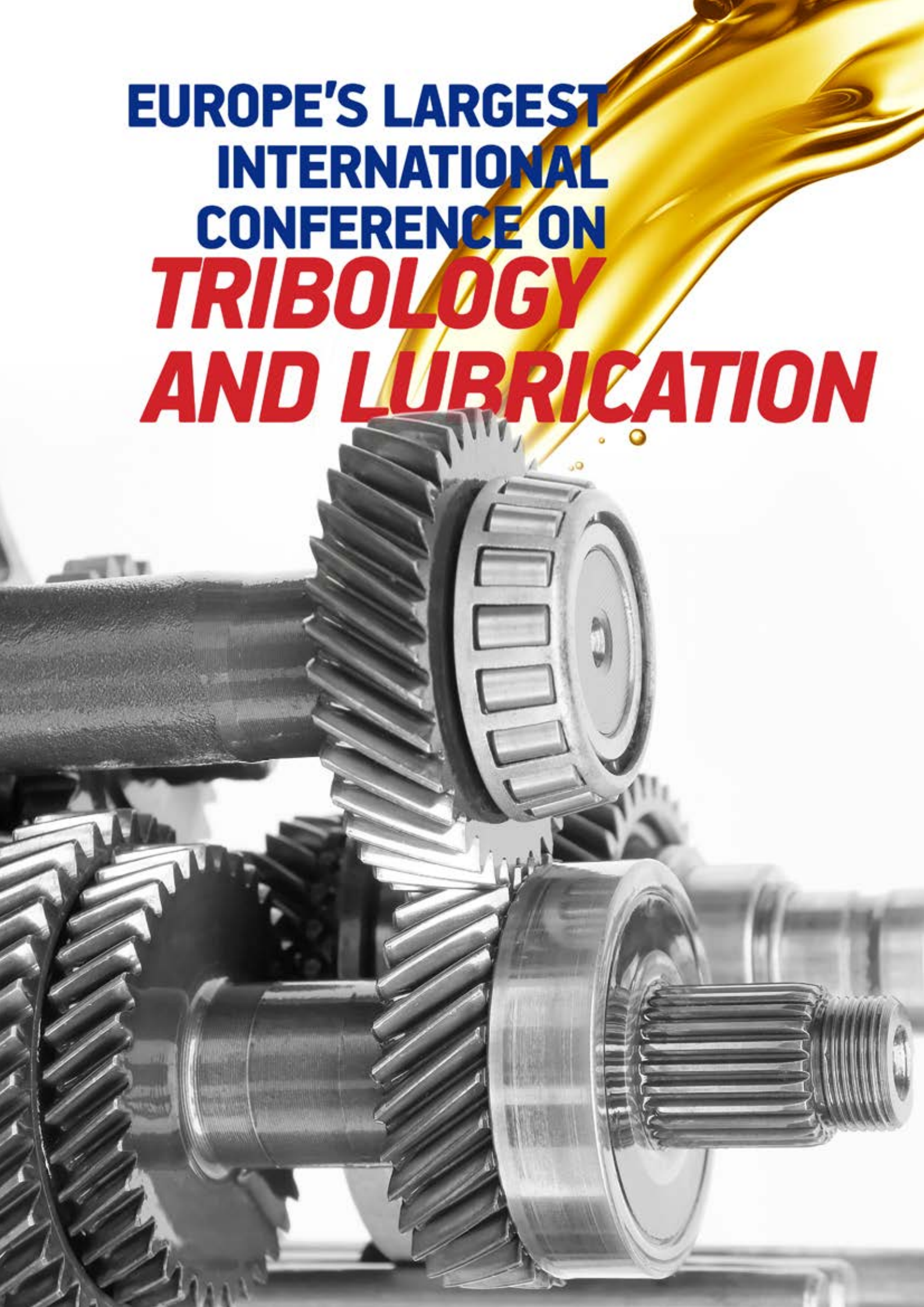
EUROPE'S LARGEST INTERNATIONAL CONFERENCE ON TRIBOLOGY AND LUBRICATION



From 9 to 11 January the 21st International Colloquium Tribology will take place at Technische Akademie Esslingen in Ostfildern, Germany. **Register to this great event and meet internationally recognized experts in the field of tribology and lubrication.**

The programme reflects challenges that the industry has to face, due to technological change. Plenary lectures at the beginning of the conference focus on electric mobility and alternative fuels as well as sustainability and raw material supply in the production of lubricants.

200 lectures in 7 - 8 parallel sessions also cover traditional topics such as automobile and industrial engineering. The key issues of the 2018 conference are tribology and lubrication in electric cars, tribology of plastic materials, gas bearings and cold temperature tribology.

The talks and discussions of the 21st International Colloquium Tribology will cover the following issues:

- Fundamentals of tribology
- New engine oils and engine tribology
- Metalworking formulations
- Modern tribological test methods
- Bio lubricants, greases and additives in future
- Coatings and surfaces
- Polymers and classical materials
- Lubricants Industry and E-Mobility

.....and many others

The colloquium is complemented by an exhibition and the traditional conference dinner on the second evening. Final highlight is an optional excursion to a Daimler plant near Stuttgart, scheduled for Friday, 12 January 2018.

You will find detailed information about the colloquium and online registration at **www.tae.de/go/tribology**

THE SYNERGY
PLATFORM FOR
CREATING AN EFFECTIVE
DRIVE TECHNOLOGY FOR
THE FUTURE

Prof. Dr.-Ing. Gerhard Poll,
Leibniz University Hannover

The International Academic Bearing Conference

FVA – The German Research Association for drive technology is organizing the second International Bearing Conference in 2018 at the TU Kaiserslautern facilities on 6 – 7 March 2018.

The FVA always focuses on areas where something is driven, controlled and moved. Research projects concentrate on mechanical and electrical or mechatronic drive technology in stationary industrial plants, in motor vehicles and mobile machines, through to aircraft. All links in the value added chain are put to the test, from materials, production technologies and quality assurance, components and systems and their calculation, lubricants, through to environmental compatibility, quality, costs and innovation management. Currently approx. 180 ongoing projects are coordinated each year by 25 active working groups.

The research results are integrated into the calculation platform FVA Workbench and are consequently available for direct implementation. Smaller and medium-sized enterprises profit from their membership in the FVA as they can participate in extensive research projects and benefit from their results without having to undertake incalculable financial risks.

We tried to reveal the story behind FVA's International Bearing Conference BEARINGWORLD during an interview with Prof. Dr.-Ing. Gerhard Poll, Leibniz University Hannover.

What is the main goal of the Bearing World conference?

We want to create an international Forum for bearing technology with the main focus on rolling element bearings. So far, there are established international conferences dedicated e.g. to hydrodynamic plain bearings or seals. Rolling element bearings are addressed by general mechanical engineering conferences or are part of material science and tribology events. We are striving for a holistic approach where all aspects – mechanics, chemistry respectively lubrication and material science – are covered in one conference while maintaining a high scientific standard.

Who should attend the Bearing World conference?

Researchers from all disciplines mentioned above, technical experts from the bearing industry as well as from all branches of industry where bearings are used.

What is your role in the organization?

My colleague Prof. Bernd Sauer and me had the idea to establish a workshop on rolling element bearing research some years ago which took place since 2012 on an annual basis at the universities in Hannover and Kaiserslautern. VDMA and FVA the approached us with the idea of extending this concept into an international conference under the "roof" of VDMA. The first Bearing World conference took place in Hannover in 2016 and I became involved in its organization, especially in selecting the scientific board, soliciting contributions and heading the program committee.

"We really cover almost everything related to bearings."

"Total life cycle costs need to be reduced which means there are increasing demands regarding maintainability and reliability."

Can you tell us more about the main elements for the selected presentations?

This time we really cover almost everything related to bearings. Still, fatigue and failure modes get a lot of attention, but it is even more important to look at lessons learned and the improvements both regarding life extension and friction reduction. Plain bearings are included this time as there is increasing interest to look at both alternatives – rolling element bearings and hydrodynamic resp. hydrostatic bearings - for the same application.

What are the challenges of drive technology applications to bearings in the future?

As an example, the automotive industry is in the process of radical changes which affect bearings, mainly with the increasing importance of electrified drive trains, following the global strive to reduce emissions. In wind power, on the other hand, technological progress allows to increase power density which leaves less space for the bearings or increases their specific load. Operating costs or total life cycle costs need to be reduced which means there are increasing demands regarding maintainability and reliability. In general, additive manufacturing starts to "change the game" and digitization demands more data.

Who are the main sponsors for the event?

SKF and Schaeffler are the main sponsors for the Bearing World event

Is there any new development or change for the organization in comparison of Bearing World 2016?

There are 3 aspects changed in comparison with Bearing World 2016. Fortunately, we have so many presentations from all over the world that the second day will feature parallel sessions. The second aspect is the fact that we will be able to include some presentations on hydrodynamic plain bearings. Last, but not least; we are switching to English as only conference language and no more simultaneous translations!

Which type of organizations are submitting their R&D papers?

We have quite a number of presentations from universities all over the world, from bearing manufacturers and also some contributions from bearing users in different industries.

Why does Bearing World take place in Kaiserslautern this year? Can you tell us something about Prof. Sauer and his institute?

As mentioned before, we continue the tradition of the two alternating locations – Hannover and Kaiserslautern - from the original workshop. We have quite an old tradition in Hannover regarding research on rolling element bearings, while Prof. Sauer succeeded in establishing a continuously growing strong research group on rolling element bearings, originally focusing on MKS simulation and cage dynamics and now covering almost every aspect.

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Science in Dialogue
with Practical Application

BEARING WORLD

International Bearing Conference
6-7 March, 2018 in Kaiserslautern, Germany

www.bearingworld.org

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Exchange ideas: with the top representatives of the field, from research and industry, national and international.
Bring yourself up-to-date with the current state of the art!

Prof. Gerhard Poll,
Leibniz University
Hannover, Germany,
Bearing World Program
Committee Speaker

"Come to Bearing World, the international expert forum dedicated to bearings. Rolling bearings are still the main focus, but this year we will also include an interesting look at plain bearings. The conference provides a comprehensive overview of the current state of technology, research, and development as well as an opportunity to engage in dialog with leading national and international experts."

What to expect from this new information and networking platform:

For whom?	All experts in the field of bearings, rolling and plain bearings
Unique:	Presentations by top international speakers
Rewarding:	Present your company to interested experts at the technical exhibition
Networking:	Get to know leading national and international experts and make new contacts
Be there:	Register today!

>> The World of Bearings – key topics: Innovative concepts ++ White Etching Cracks (WEC) ++ Reliability and functional safety ++ Tribology and energy ++ Damage diagnosis and avoidance ++ other issues

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BEARING WORLD 2018

Program

6 March, 2018: 9:30 – 18:00, Evening Event at 19:30

> Opening

Prof. Gerhard Poll, Leibniz University Hannover,
Institute of Machine Design and Tribology (IMKT), Germany
Prof. Bernd Sauer, University of Kaiserslautern,
Institute of Machine Elements, Gears and Transmissions (MEGT), Germany
Christian Kunze, Forschungsvereinigung Antriebstechnik e. V. (FVA), Germany

> Keynotes

Title TBD
Dr. Victoria van Camp, SKF Group, Sweden

Shaping the mobility for tomorrow through innovation bearing technology for a smarter, cleaner and safer world
Prof. Dr. Tim Hosenfeldt, Schaeffler Technologies AG & Co. KG, Germany

> Energy efficiency

Investigation of the frictional torque and temperature behavior of tapered roller bearings
Marco Schwarz, ZF Friedrichshafen AG, Germany
Co-author: Jürgen Liebrecht, Technische Universität Kaiserslautern,
Institute of Machine Elements, Gears and Transmissions (MEGT), Germany

Friction losses optimized rolling bearing for substitution of highly loaded tapered rolling bearings
Prof. Bernd Sauer
Co-author: Margarita Marmol Fernandez
University of Kaiserslautern, Institute of Machine Elements,
Gears and Transmissions (MEGT), Germany

Development and efficiency testing of new generation „High Efficiency" tarped roller bearings to meet efficiency of angular contact ball bearings on pinion shafts
Thorsten Klähn
Co-authors: Jean Merckling; Dragos Oprescu, Timken Europe, France
Mike Gromosiak, Caleb Chovan, Timothy Crabill, The Timken Company, France

Temperature behavior of rolling bearings exposed to centripetal acceleration
David Hochrein
Co-authors: Dr. Stephan Tremmel; Prof. Sandro Wartzack
Friedrich-Alexander-Universität Erlangen-Nürnberg, Engineering Design,
Germany; Oliver Graf-Goller, Schaeffler Technologies AG & Co. KG, Germany

"Bearings are the heart of every machine or device with moving parts. With presentations from international experts, Bearing World offers up-to-date knowledge related to rotating equipment and its care and maintenance. Performance and reliability are the central topics of Bearing World."

Bernd Stephan, AB SKF, Gothenburg, Sweden; CTO SKF Group

> Failure modes

Formation of White Etching Cracks under rolling loading and the detection of preliminary stages
Dr. Ralf Martin Dinter, Flender GmbH, Germany
Co-author: Francisco Gutierrez Guzman, RWTH Aachen University,
Institute for Machine Elements and Machine Design (IME), Germany

WEC failure at the inner ring of roller bearings under dynamic conditions
Prof. Hubert Schwarze, Clausthal University of Technology,
Institute of Tribology and Energy Conversion Machinery, Germany
Co-author: Dr.-Ing. Jörg Loos, Schaeffler Technologies AG & Co. KG, Germany

The relation of White Etching Cracks with (very) high cycle fatigue
Dr. Reinder Hindrik Vegter
Co-author: Junbiao Lai
SKF Research & Technology Development, Netherlands

Evolution of White Etching Cracks during bearing tests
Steve Ooi, University of Cambridge, United Kingdom

Lubricant influences on the formation of White Etching Cracks (WEC)
Dr. Christoph Mayer, Klüber Lubrication München SE & Co. KG, Germany

Camshaft ball bearing WEC premature failure on simplified component test: suitable bearing design and improved test with representative boundary conditions
Marc Paquien, NTN-SNR Roulements, France

Differences between brinelling marks, false brinelling and standstill marks
Markus Grebe, Competence Center for Tribology at the Mannheim University of Applied Sciences, Germany

Solutions to reduce wear in wind turbine blade bearings
Fabian Schwack, Leibniz Universität Hannover, Insitute of Machine Design and Tribology (IMKT), Germany
Co-author: Matthias Stammler, Fraunhofer Institute for Wind Energy and Energy System Technology (IWES), Germany

Relationship of smearing criteria and transient lubrication analysis
Prof. Wen Wang
Co-author: Liang Guo
Shanghai University, China

Program Committee

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Engineering Design, Germany
Prof. Sandro Wartzack, KTmfk University of Erlangen-Nürnberg, Germany
Andreas Weber, Vestas Nacelles Deutschland GmbH, Germany
Prof. Dr. Hans-Werner Zoch, IWT Stiftung Institut für Werkstofftechnik, Germany

BEARING WORLD 2018

Program

7 March, 2018: 8:30 – 16:15

> Bearing calculation and dimensioning

Miscellaneous Engineering Approaches to contact elasticity calculations
Luc Houpert, The Timken Company, France

Non-linearly coupled modelling of spindle bearing systems
Jens Falker
Co-authors: Prof. Christian Brecher; Marcel Fey
RWTH Aachen, Laboratory for Machine Tools and Production Engineering (WZL), Germany

Dealing with the bearing design gap under mixed friction conditions
Dr. Nadine Nagler
Co-author: Daniel Hast
Bosch Rexroth AG, Germany

Development and investigation of a simulation-driven preloading process for bearing installation
Philipp Abele
Co-author: Ermalt Lamaj, Dr. Jörg Hermes
SEW-Eurodrive GmbH & Co. KG, Germany

Influence of geometric form deviations on operating parameters in hydrodynamic bearings
Marko Ebermann
Co-author: Prof. Erhard Leidich
Chemnitz University of Technology, Department of Mechanical Engineering, Institute of Design Engineering and Drive Technology, Germany

Is surface texturing really efficient in hydrodynamic sliding bearings?
Prof. Michel Fillon
University of Poitiers, Institut Pprime, CNRS, France

Optimization and assessment of bearing running noise
Dr. Hannes Grillenberger
Co-author: Joachim Schleifenbaum
Schaeffler Technologies AG & Co. KG, Germany

Radially preloaded cylindrical roller bearings – experimental studies regarding axial roller kinematic
Roman Böttcher
Co-author: Prof. Gerhard Poll
Leibniz Universität Hannover, Insitute of Machine Design and Tribology (IMKT), Germany

Experimental and numerical investigations of the durability of bearing cages
Dr. Robert Szlosarek, Technische Universität Bergakademie Freiberg, Institute for machine elements, design and manufacturing, Germany
Co-author: Franz Pätzold, Kugel- und Rollenlagerwerk, Leipzig GmbH, Germany

Dynamic analysis of railway gearbox: from rotating system simulation to dynamics of a rolling bearing
Dr. Witold Marek Smolenski
Co-author: Dr. Andrei Degtiarev
Schaeffler Technologies AG & Co. KG, Germany

> Lab testing vs. field performance / validation

Experimental bearing cage vibration and corroboration with bearing cage dynamic modeling
Prof. Farshid Sadeghi
Co-author: Lijun Cao
Purdue University, School of Mechanical Engineering, West Lafayette, (IN), USA

Investigation of rolling bearing condition monitoring techniques: a study based on long term run-to-failure vibration data
Reza Golafshan
Co-author: Prof. Georg Jacobs
RWTH Aachen University, Institute for Machine Elements and Machine Design (IME), Germany

Testing of main bearings of wind turbine generator
Dr. Houssein Janbein
Co-author: Lutz Heuser
Vestas Wind Systems, Germany

Hydrogen evolution in rolling contact
Dr. Dominik Kürten
Co-author: Dr. Andreas Kailer
Fraunhofer Institute for Mechanics of Materials (IWM), Germany

Non-invasive load measurement of hertzian contact within a cylindrical roller bearing
Gary Nicholas
Co-author: Rob Dwyer-Joyce
The University of Sheffield, United Kingdom

"BEARING WORLD 2018 will bring together experts from research and industry in the fields of design, calculation, and the practical use of bearings. We anticipate around 40 high level presentations detailing the latest completed and ongoing research projects as well as reports from field operation. Come to Kaiserslautern, Germany, and meet the international experts!"

Prof. Bernd Sauer, University of Kaiserslautern, Germany;
Member of the BEARING WORLD program committee and scientific board

Local Host

Prof. Bernd Sauer, MEGT University of Kaiserslautern, Germany

Technical Sponsor

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Organiser

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Location

University of Kaiserslautern, Building 42 / Audimax
Gottlieb-Daimler-Strasse, D-67663 Kaiserslautern, Germany

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BEARING WORLD 2018

Program

7 March, 2018: 8:30 – 16:15

> Lubrication

Base oil and grease effects on friction and film thickness in transition to mixed lubrication
Dr. Petr Šperka
Co-author: Ivan Krupka
Brno University of Technology, Czech Republic

Lubricant formulations in rolling bearing simulation based upon friction mapping results
Torben Fruth, FUCHS Schmierstoffe GmbH, Germany
Co-author: Dr.-Ing. Timo Kiekbusch, University of Kaiserslautern, Institute of Machine Elements, Gears and Transmissions (MEGT), Germany

Observation of grease film evolution in rolling point contacts
Dr. Xinming Li, Qingdao University of Technology, China

Analyses of rheological behaviors based on a novel rheological model for the shear thinning lubricants
Ping Yang, Qingdao University of Technology, School of Mechanical Engineering, China

Characterization of electrical lubricant properties for modeling of electrical drive systems with rolling bearings
Timo Kiekbusch
Co-author: Prof. Bernd Sauer, University of Kaiserslautern, Institute of Machine Elements, Gears and Transmissions (MEGT), Germany

> Drive technology applications and challenges for bearings

The path of the common-mode currents: measures against damage of bearings caused by electrical discharge currents at large drives derived from latest field research results
Sven Tröger
Co-author: Prof. Matthias Kröger
Technische Universität Bergakademie Freiberg, Institute for Machine Elements, Engineering Design and Manufacturing, Germany

An experimental study of the effects of dynamic shaft movements on friction in cylindrical roller bearings
Andreas Meinel
Co-author: Dr. Stephan Tremmel
Friedrich-Alexander-Universität Erlangen-Nürnberg, Engineering Design, Germany

Interdisciplinary product development of optimized spherical roller bearings for wind main shaft applications
Andreas Bierlein, Schaeffler Technologies GmbH & Co. KG, Germany

Reliable calculation of slewing bearings for the industrial practice
Dr. Martin Neidnicht
Co-authors: Dr. Thomas Handreck; Dr. Bernd Lüneburg
thyssenkrupp Rothe Erde GmbH, Germany;
Dr. Thomas Griggel, Thomas Gellermann, Allianz Risk Consulting GmbH, Germany

An analytical method to account for spinning friction in axial ball bearings using the standard DIN ISO 281
Paul Sauvage
Co-authors: Christopher Sous; Prof. Georg Jacobs
RWTH Aachen, University, Institute for Machine Elements and Machine Design (IME), Germany
Martin Correns, Schaeffler Technologies AG & Co. KG, Germany

> Life and durability

Bearing fatigue life of a multi-material shaft with an integrated raceway
Timm Coors
Co-author: Prof. Gerhard Poll
Leibniz Universität Hannover, Institute of Machine Design and Tribology (IMKT), Germany

The effect of retained austenite and carbide distribution on the wear resistance of the bearing raceway
Zeren Ozgeneci, ORS Bearings, Polatlı-Ankara, Turkey
Co-author: Bilgehan Ogel, Middle East Technical University, Metalurgical and Material Engineering Department, Turkey

Integrity assurance of silicon nitride balls for hybrid bearings
Junbiao Lai
Co-authors: Charlotte Vieillard; Yuri Kadin
SKF Research & Technology Development, Netherlands

A new through-hardenable high hardenability bearing steel designed by means of simultaneous optimisation of multiple responses using the desirability function approach
Dr. Urszula Sachadel
Co-authors: Mohamed Sherif; Boris Minov; Wijbe Buising
SKF, Netherlands

Evaluation of multiple-flaw failure of bearing steel 52100 in the VHCF regime and mathematical description of the single-flaw fatigue behavior
Dr. Klaus Burkart
Co-authors: Prof. Hans-Werner Zoch; Prof. Brigitte Clausen
Stiftung Institut für Werkstofftechnik (IWT) Bremen, Germany

"Bearing World is the international expert forum for bearings. Here, researchers and developers from universities and bearing manufacturers come together in dialogue with users and experts from the industry. The goal is to align the drive system industry more closely to the requirements of the future. There can be no progress without modern drive technologies!"

Dr. Arbogast Grunau, Corporate R&D Competence and Services, Schaeffler AG, Germany

Exhibition

Present your company in the accompanying technical exhibition.
All relevant information can be obtained from the organisers.

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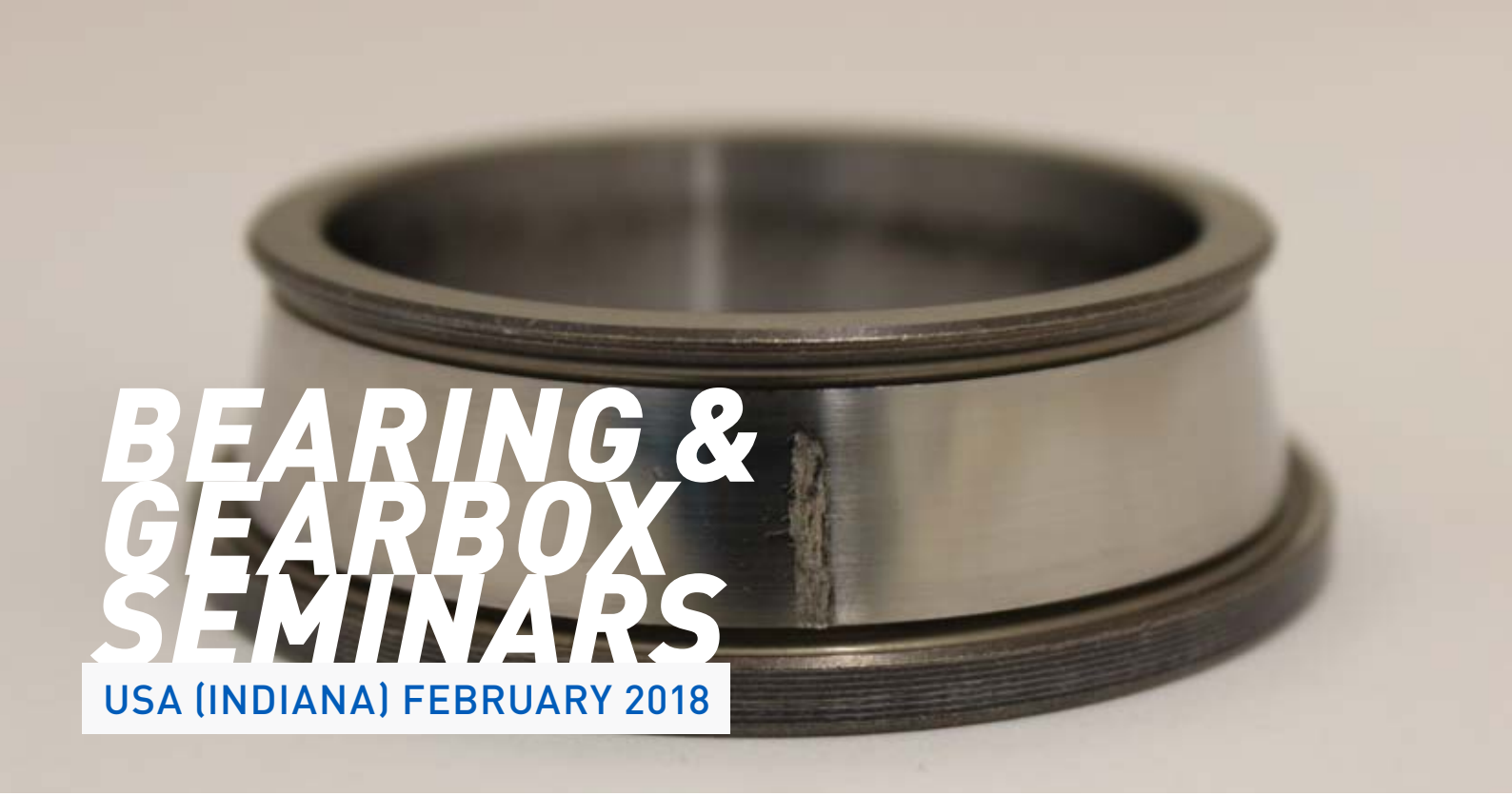


BEARING & GEARBOX SEMINARS

USA (INDIANA) FEBRUARY 2018

SEMINAR PROGRAM

BEARINGS

5th of February 2018
Development of bearing suppliers and quality control during purchasing

6th of February 2018
Basics of bearing technology

7th of February 2018
Bearing failures: Investigation and analysis of practical examples

GEARBOXES

8th of February 2018
Preventive maintenance and condition monitoring of industrial gearboxes

9th of February 2018
Supplier development for large industrial gearboxes and quality control

10th of February 2018
Basics of machine acoustics – reduction of noise by design measures

BEARING SEMINARS

Development of bearing suppliers and quality control during purchasing

5th of February 2018, 10:00 a.m. – 05:00 p.m.

Global sourcing of bearings opens plenty of opportunities for optimization of supply chains. However, any new supplier approval goes along with a certain quality risk. Therefore, this seminar is focused on the following subjects:

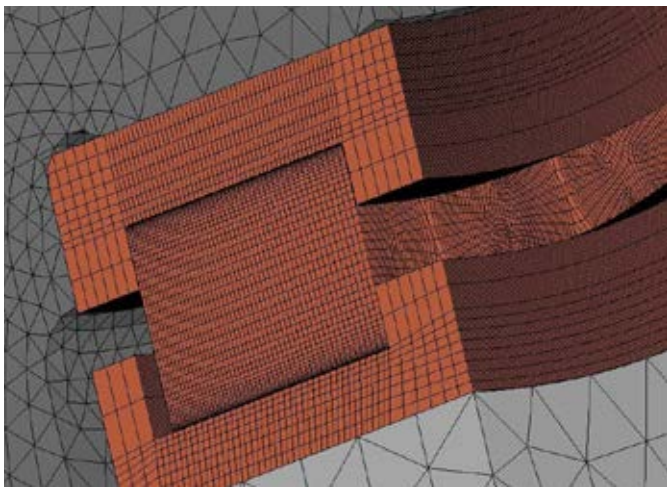
1. Definition of quality requirements, technical specifications
2. Approach during supplier visits and audits
3. Requirements related to documentation of production
4. Methods for incoming inspection
5. Concepts for quality control

Basics of bearing technology

6th of February 2018, 10:00 a.m. – 05:00 p.m.

This one day seminar provides basic knowledge especially for design of bearing arrangements and for quality assurance during purchasing. Lectures shall focus especially on:

1. Types, Properties, Concepts
2. Basics of Tribology
3. Raceway crowning
4. Material properties
5. Sample assessement



Bearing Failures: Investigation and analysis of practical examples

7th of February 2018, 10:00 a.m. – 05:00 p.m.

Identification and understanding of failure root causes is necessary in order to initiate the required counter measures. Therefore, this seminar shall show based on practical examples how damage characteristics can be identified and to which conclusion they lead. Main topics are especially:

1. Methods for damage investigation
2. Damage mechanisms
3. Quality characteristics of bearings
4. Examples from numerous applications

GEARBOX SEMINARS

Preventive maintenance and condition monitoring of industrial gearboxes

8th of February 2018, 10:00 a.m. – 05:00 p.m.

In many technical systems, breakdowns of particular components lead to enormous subsequent costs as production will be affected significantly. Detection of damages at early stages can lead to minimization of downtime and helps to avoid secondary damages by which overall breakdown costs can be highly reduced. Therefore, this seminar refers to the following topics:

1. Investigation of lubricants
2. Regular inspection and endoscopy
3. Vibration measurement and analysis of obtained results
4. Automation of shutdown in case of detected defect

Supplier development for large industrial gearboxes and quality control during purchasing

9th of February 2018, 10:00 a.m. – 05:00 p.m.

Large industrial gearboxes are typically produced in small series while frequently, individual solutions are requested which require close collaboration between supplier and customer. Here, especially clear communication of requirements, verification of technical concepts and of course the general assessment of production processes are essential.
Accordingly, the topics of this seminar are:

1. Structure and content of technical specifications
2. Verification of technical documents such as drawings, stress and lifetime calculations of shafts, gearings, bearings and housings
3. Approach during supplier visits and audits
4. Requirements related to documentation of production
5. Methods for incoming and production related inspection

Basics of machine acoustics – reduction of noise by design measures

10th of February 2018, 10:00 a.m. – 05:00 p.m.

Avoidance of noise emission belongs to the important requirements of technical systems while noise protection covers frequently are expensive and go along with other disadvantages. In this context, it can be much more efficient to prevent noise emission by proper design measures instead of capsuling noisy machines. Such measures refer especially to design of housings for which reason the following subjects will be discussed during this seminar:

1. Basics of machine acoustics
2. Excitation forces
3. Structure born noise
4. Noise radiation

You can download the registration form and all the seminar details on our website at **www.elgeti-engineering.de** in order to susbcribe for one or more of the training seminars or contact Ms. Alexandra Becker on **ab@elgeti-engineering.de** or call **+1 2195105499**

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Poor greasing practices are a leading cause of bearing failure.

Many lube departments re-grease on a wasteful calendar-based schedule. This leads to over and under greased bearings that fail to deliver their engineered value.

LUBExpert tells us when to grease... and when to stop.

Grease reduces friction in bearings. Less friction means longer life. LUBExpert alerts you when friction levels increase, guides you during re-lubrication, and prevents over and under lubrication.

Grease Bearings Right

- Right Lubricant
- Right Location
- Right Interval
- Right Quantity
- Right Indicators

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sdtultrasound.com/lubexpert

WIN EURASIA 2018

6 Fairs Under 1 Roof

WIN
EURASIA

CeMAT EURASIA

Otomasyon EURASIA

Surface Technology EURASIA

IAMD EURASIA

Metal Working EURASIA

WIN EURASIA, THE LEADING TRADE FAIR OF THE MANUFACTURING INDUSTRY IN TURKEY AND EURASIAN REGION, WILL BE GATHERING THOUSANDS OF EXHIBITORS AND VISITORS IN ISTANBUL ON 15-18 MARCH AT TÜYAP FAIR CONVENTION AND CONGRESS CENTER.

WIN EURASIA, the leading trade fair of the manufacturing industry in Turkey and Eurasian region, will be gathering thousands of exhibitors and visitors in Istanbul on 15-18 March at Tüyap Fair Convention and Congress Center.

As the leading and the biggest international annual event in the region; WIN EURASIA 2018 is a unique opportunity for the industry professionals that offer 360 degree view to the manufacturing sector by covering 6 trade fairs that are closely related with each other both in demand and supply prospects. It will create a significant synergy and gather the whole interrelated products and services in the manufacturing processes as well as the whole industry at one stop. It also provides advantages for the visitors and exhibitors in terms of time and budget efficiency.

The Eurasia's leading industrial show for innovation in manufacturing industry is a must attend event now for the global players of the industrial environment. The merger of leading trade fairs creates a formidable trade platform. Companies will exploit the remarkable and unique synergy from the high interaction that will certainly provide good advantages for the visitors and exhibitors in terms of time and budget efficiency. While exhibitors will have the opportunity to position their company brand, grow their client base and launch new products and services directly to their target markets in a lumb and meet and network with a much broader reach of influencers and decision-makers across the cross markets both national & international; visitors will have a chance to reach more products groups in one stop. Specialist visitors benefit from practical and time-saving synergy effects of the show. Moreover, since the exhibitors of both shows are also potential customers of each other, WIN EURASIA 2018 will generate more business contacts by gathering all WIN fairs at one location.

Whole Eurasia's Manufacturing Industry at One Stop!

With the joint power of 6 industrial technology sectors, WIN EURASIA will be the largest display & demonstration of global manufacturing technology in the Eurasian Region, featuring the latest trends and innovations of the metalworking industry as well as automation, motion and drive, materials handling, electrical engineering, surface and welding technologies. The exhibitions who will join together during this great event are: Metal Working EURASIA, IAMD EURASIA, CeMAT EURASIA, Welding EURASIA and Surface Technology EURASIA!

Get 4-0 Ahead of Your Competitors with Industry 4.0 Festival Area!

"Industry 4.0 Festival Area" gives you the opportunity to exhibit your Industry 4.0 related solutions, products and services in WIN EURASIA 2018 which takes the pulse of the 360 degree manufacturing industry. Specially positioned in Hall 14, in an area of 1.000 sqm, Industry 4.0 Festival Area enables you to shape the sector via forums, panels and client-specific presentation areas.

Visit www.win-eurasia.com for more details about WIN EURASIA 2018 and save the date in your agenda.

WIN EURASIA

BEARING ROOT CAUSE FAILURE ANALYSIS WORKSHOP

AT THE WIN FAIR **IN ISTANBUL** ON FRIDAY 16 MARCH 2018

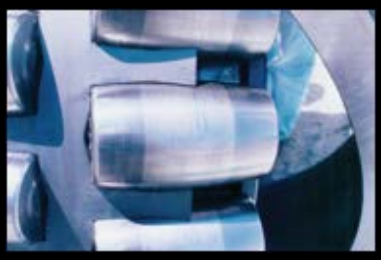
Presented by **PER ARNOLD ELGQVIST**

- To emphasize the importance of Bearing failure root cause analysis as a tool to improve the efficiency of Maintenance: Identifying the root causes for the failures and determining the exact required corrective actions to avoid further failures for the same cause will help maintenance to perform a precise repair and avoid waste of time and unnecessary spare parts.
- To terminate the workshop blindness of accepting bearing failures as "normal" and the simple replacement of bearings as consumables without implementing any corrective actions as "let's hope that this bearing will last longer".
- To describe the most common causes for bearing failures in order to easier determine and understand the required corrective actions.
- To emphasize the importance of understanding the different bearing failure modes according to the ISO 15243 will also be pointed out as these in many cases will clearly and directly indicate the failure causes.
- This workshop will also cover a simple and practical procedure how to perform a bearing root cause failure analysis and some relevant success stories will be solved in an interactive way.

Content of the Workshop

- First determination to be made: Natural or premature failure?
- Why should we do Bearing Root Cause Failure Analysis?
  First of all, in order to avoid further repetitive failures and unplanned downtime.
  Second, to perform no more nor less than the required repair, which means increased efficiency.
  Reduction of both unplanned and planned downtime.
- Benefits:
  Reducing unnecessary downtime, both planned and unplanned (OEE+).
  Extended bearing life increasing the availability of the process (OEE+).
  Reduced total cost by reducing the failure cost and avoiding further repetitive failures.
- Example: Success story at a cement mill:
  Failure cost: 40,000 USD
  Lost production value: 28'000,000 USD

Failure of a large bearing in a cement mill:



Service life:
¡105 hours!

It may be very simple when you have the knowledge. By knowing the most common causes for bearing failures and the different bearing modes it will in many cases be very easy to identify the failure root cause and logically to immediately indicate the required corrective action.

Example of a simple analysis:

Vertical pump

Bearings: 6215 + 51115
Lubricant: Grease ISO VG460 Moly.
Speed: 1500 RPM
You got 10 seconds!

ISO 15243 established Bearing Failure Modes.

The following failure modes will be described:

Fatigue:
» Subsurface initiated fatigue
» Surface initiated fatigue

Wear:
» Abrasive wear
» Adhesive wear

Corrosion:
» Moisture corrosion
» Fretting corrosion
» False Brinelling

Electrical erosion:
» Excessive voltage
» Current leakage

Plastic deformation:
» Overload
» Indentation from debris
» Indentation by handling

Fracture and cracking:
» Forced fracture
» Fatigue fracture
» Thermal cracking

The Procedure of Bearing Root Cause Failure Analysis. A complete Failure Analysis Process should include:

1. Determination of the most complete information on the operating conditions.

2. Relevant photos during the process.

3. Samples of the lubricant from the application and sample of unused lubricant for comparison.

4. Marking of the bearings and their position in the equipment.

5. Careful dismounting of the bearing avoiding unnecessary additional damages.

6. Inspection of the other machine components to determine collateral damages.

7. Verify bearing seating on shafts and in housings.

8. Verify the condition and distribution of the lubricant inside the bearings. If possible, take additional samples.

9. Clean the bearings and the components and take note if possible of the markings, brand and complete designations.
10. Realize the analysis of the bearing and corresponding components. Take additional photos.

11. Determine the causes of the failure comparing the failure patterns with available standard photos from ISO 15243 and/or bearing manufacturers.

12. Determine the necessary corrective actions required in order to avoid the recurrence of the same failure.

13. Protect and keep the failed bearing for future use as comparison.

14. Example: Some examples of the above will be shown.

15. Interactive exercises: During the workshop, several interactive examples of bearing failure analysis will be performed.

16. Conclusions and recommendations.

You can reserve your seat by registering online.
Register today as **there are only 50 seats available.**

Kenan Özcan

Workshop Regsitrations

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- Receive alarms when your bearings need lubrication

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- Easily create a bearings route
- Trend your bearings condition
- Set alarms for early failures
- Make sound recordings of your bearings for analysis

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The ultrasound approach

2018 EVENTS EXHIBITIONS CONFERENCES AGENDA

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

NSK

2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

JANUARY

LUBRICATION / TRIBOLOGY

21st INTERNATIONAL COLLOQUIUM TRIBOLOGY

09 - 11 Jan 2018
Stuttgart / Germany

Europe's largest international conference on tribology and lubrication.

MEDIA PARTNER Bearing NEWS

STEEL

STEELFAB
15 Jan - 18 Jan 2018
Dubai / UAE

Steel production and metal manufacturing event.

www.steelfabme.com

AGRICULTURE

LAMMA
17 Jan -18 Jan 2018
Peterborough / UK

Farm machinery, equipment and services show

www.lammashow.com

AGRICULTURE

POLAGRA-PREMIERY
18 Jan - 21 Jan 2018
Poznan / Poland

International fair of agricultural mechanization

www.polagra-premiery.pl

MINING

OMAN MINERAL & MINING
22 Jan - 24 Jan 2018
Muscat / Oman

Oman minerals & mining exhibition & conference

www.omanexpo.com

MATERIALS HANDLING

UPAKOVKA
23 Jan - 26 Jan 2018
Moscow / Russia

Russian version of Interpack

www.upakovka-tradefair.com

AUTOMATION

ALL AUTOMATION
24 Jan - 25 Jan 2018
Hamburg / Germany

Regional automation show of Hamburg

www.automation-hamburg.com

AGRICULTURE

AGROMACH EXPO
24 Jan - 27 Jan 2018
Budapesta / Hungary

International agriculture and agricultural machinery exhibition

www.agromashexpo.hu

TEXTILE MACHINERY

GARMENTECH
24 Jan - 27 Jan 2018
Dhaka / Bangladesh

Show for textile machinery

www.garmentechdhaka.com

MACHINE TOOLS

IMTEX 2018
25 Jan - 30 Jan 2018
Bengaluru / India

An initiative of IMTMA, IMTEX FORMING is a flagship event for the Indian metal forming industry.

www.imtex.in

AUTOMOTIVE

AUTOMECHANIKA
31 Jan - 02 Feb 2018
Jeddah / Saudi Arabia

International automotive parts exhibition

www.automechanikaJeddah.com

2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

FEBRUARY

AGRICULTURE

FIERAGRICOLA
31 Jan - 03 Feb 2018
Verona / Italy

International Agricultural Technologies Show

www.fieragricola.it

AGRICULTURE

AGROTICA
01 Feb - 04 Feb 2018
Thessalonika/ Greece

International Fair for Agricultural Machinery, Equipment and Supplies

www.agrotica.helexpo.gr

MACHINE TOOLS

BIEMH CEVISAMA
05 Feb - 09 Feb 2018
Valencia / Spain

Metal cutting, metal forming and machine-tools

www.cevisama.feriavalencia.com

MANUFACTURING

SOUTHERN MANUFACTURING
06 Feb - 08 Feb 2018
Hampshire / UK

Regional manufacturing technology, electronics and subcontracting exhibition

www.industrysouth.co.uk

MANUFACTURING

EXPO MANUFACTURA
06 Feb - 08 Feb 2018
Monterrey / Mexico

Manufacturing and equipment expo

www.expomanufactura.com.mx

MEDICAL TECHNOLOGY

MD&M WEST
06 Feb - 08 Feb 2018
Anaheim / USA

Cutting-edge medical technology

www.mdmwest.mddionline.com

MAINTENANCE

MAINTENANCE SCHWEIZ
07 Feb - 08 Feb 2018
Zurich / Switzerland

Switzerlands leading trade fair for industrial maintenance

www.easyfairs.com

AUTOMATION

AUTO EXPO - COMPONENTS
08 Feb - 11 Feb 2018
New Delhi / India

Auto components Show

www.autoexpo.in

MAINTENANCE

MAINTENANCE DORTMUND
21 Feb - 22 Feb 2018
Dortmund / Germany

Regional maintenance show

www.easyfairs.com

MARCH

BEARING

BEARINGS WORLD
06 Mar - 07 Mar 2018
Kaiserslautern / Germany

International academic conference for bearing industry experts

www.bearingworld.org

MEDIA PARTNER Bearing NEWS

AUTOMATION

ALL AUTOMATION
07 Mar - 08 Mar 2018
Friedrichshafen / Germany

Regional automation show of Friedrichshafen

www.automation-friedrichshafen.com

2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

MARCH

MANUFACTURING

MANUFACTURING EXPO
13 Mar - 15 Mar 2018
Lagos / Nigeria

Manufacturing and equipment expo

www.nigeriamanufacturingexpo.com

MATERIALS HANDLING

CFIA
13 Mar - 15 Mar 2018
Rennes / France

Dedicated to production, maintenance, packaging and logistics for the manufacturers in the food-processing

www.cfiaexpo.com

OIL & GAS

AOG
14 Mar - 16 Mar 2018
Perth / Australia

Australia's oil & gas event

www.aogexpo.com.au

MINING & CONSTRUCTION

BAUMA CONEXPO AFRICA
13 Mar - 16 Mar 2018
Johannesburg / South Africa

International Trade Fair for Construction Machinery, Building Material Machines, Mining Machines and Construction Vehicles

www.bcafrica.com

AGRICULTURE

EXPOAGRO
13 Mar - 16 Mar 2018
Buenos Aires / Argentina

Agriculture machinery exhibition

www.expoagro.com.ar

AUTOMOTIVE

AUTOMECHANIKA
14 Mar - 16 Mar 2018
Mexico City / Mexico

International automotive parts exhibition

www.paaceautomechanika.com

CONSTRUCTION

CONSTRUCTECH
15 Mar - 17 Mar 2018
Beijing / China

6th China International Building Technologies, Building Materials & Construction Equipment Expo

www.constructech.com

GENERAL INDUSTRY

WIN EURASIA
15 Mar - 18 Mar 2018
Istanbul / Turkey

Manufacturing technology, automation, material handling exhibition

www.win-automation.com

MEDIA PARTNER Bearing NEWS

AUTOMATION

IAMD EURASIA
15 Mar - 18 Mar 2018
Istanbul / Turkey

International Trade Fair for Integrated Automation, Motion & Drives at WIN EURASIA

www.messe.de

MEDIA PARTNER Bearing NEWS

STEEL

METAL WORKING EURASIA
15 Mar - 18 Mar 2018
Istanbul / Turkey

International Trade Fair for Integrated Automation, Motion & Drives at WIN EURASIA

www.messe.de

MEDIA PARTNER Bearing NEWS

MATERIALS HANDLING

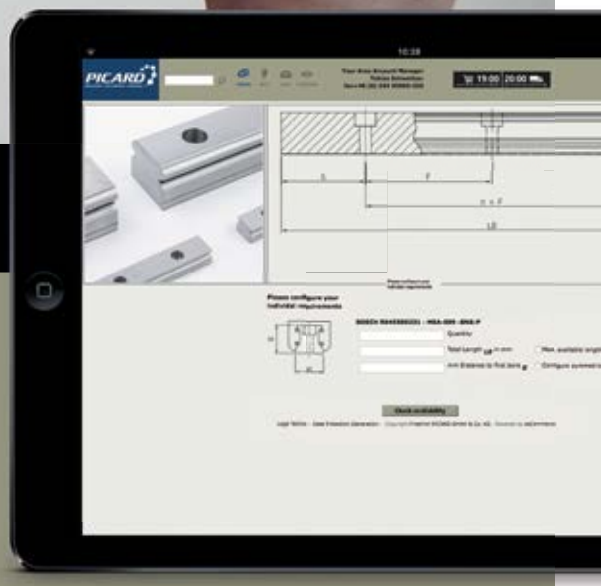
CEMAT EURASIA
15 Mar - 18 Mar 2018
Istanbul / Turkey

International Trade Fair for Materials Handling, Automation Technology, Transport Systems and Logistics

www.messe.de

MEDIA PARTNER Bearing NEWS

PICARD
ONLINESHOP



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19:00 CET → **20:00** CET

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Just 4 steps and your linear guide is ready!

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3. Choose the requested linear guide
4. Enter the dimensions

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BEARINGS · TRANSMISSIONS · LIN

BEARINGS

Dunlop Premium bearings are manufactured in Europe and in the UK. With more than a sixty-year history it is a proven and reliable manufacturer and supplier of certified premium bearings for a vast range of applications which can include agricultural, automotive, construction, industrial and motor sport sectors.

TRANSMISSIONS

Dunlop offer a unique range of mechanical power transmission products to meet today's stringent and ever increasing customer requirements. Transmission products are manufactured in Europe, the UK and Asia. All are constructed from high quality materials and are finished to tight dimensional tolerances.

LINKAGES

Dunlop linkages and linkage components are proudly manufactured in the UK and are used to transfer mechanical motion. Whether that motion is shifting the cutting height in a lawnmower or controlling the exhaust valve on an articulated lorry, we specialise in the supply of custom made rod-based linkages.

Availability

Many of the world's most prestigious original equipment manufacturers in the agricultural, automotive, construction, industrial and motor sport sectors rely on quality Dunlop products.

A comprehensive network of MRO & replacement distributors throughout Europe and the rest of the World is also available, ensuring our products are readily available quickly and efficiently.

UK and European Manufacturing

DUNLOP BTL is proud to be a committed European manufacturer of Bearings, Transmissions and Linkages.

We believe in the future of European manufacturing and will continue to focus and further enhance the requirements and expectations of our customers globally.

As a proud manufacturer we want to help Europe's industry flourish and to meet the world's evolving appetite for innovative designs and responsibly produced quality manufactured products.

New UK Production Facility

During 2016 UK production moved to a newly refurbished manufacturing facility this enable further expansion and additional production machinery as well as additional production staff.

Being based in the North East of the UK meant the Consett site would become it's main European manufacturing and distribution centre, producing around 50% of its products, while other items are produced in factories from around the world.

In addition to our catalogue ranges of Bearings, Transmission and Linkages we produce non-standard items to suit individual customer requirements, 40% of our total production is for bespoke products to specific customer design our organisation.

OP™

KAGES

EW OUR LATEST ONLINE BEARINGS CATALOGUE

www.dunlopbtl.com/bearing-catalogue

Investment & Quality Assurance

Investment is constant, continually expanding and upgrading our portfolio of production facilities and machinery globally. The latest computer controlled inventory of over 30,000 part numbers covering 42 different product groups are held in stock and available for immediate dispatch.

Dunlop BTL Ltd is committed to offering all of our customers, not only the widest range of quality products but also a world class quality service. We have a dedicated quality department striving towards continuous improvements in all aspects of our company.

Our commitment is to quality to continuously improve in every aspect of the company activities, we are UKAS approved company to ISO 9001:2008

Our level of environmental commitment remains ahead of the industry trend. UKAS approved to ISO 14001:2004.

As a quality conscious European manufacturer we take our environmental responsibility very seriously. Quality Confidence – when purchasing any Dunlop product you can be reassured that not only have the materials of the highest quality been used with full production traceability, but also that they have been produced in a responsible way, by a manufacturer who cares about the environment and its staff and has the expectations and demands of its customers foremost.

European Distribution Centre:
MPT House, Brunswick Road, Cobbs Wood Ind Est, Ashford, Kent, TN23 1EL. *United Kingdom*

UK Manufacturing Centre:
Unit 46, Werdoth Way, No. 1 Ind Est, Consett, County Durham, DH8 6SZ *United Kingdom*

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+ 8 DIFFERENT LANGUAGE PORTALS & PUBLICATIONS

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2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

MARCH

AGRICULTURE

AGROTECH
16 Mar - 18 Mar 2018
Kielce / Poland

Agriculture machinery

www.targikielce.pl

MATERIALS HANDLING

PROPAK VIETNAM
20 Mar - 22 Mar 2018
Ho Chi Minh / Vietnam

Processing, packaging, handling machinery

www.propakvietnam.com

MATERIALS HANDLING

CEMAT SOUTHEAST ASIA
20 Mar - 22 Mar 2018
Jakarta / Indonesia

International Trade Fair for Materials Handling, Automation Technology, Transport Systems and Logistics

www.messe.de

MEDIA PARTNER Bearing NEWS

MATERIALS HANDLING

INTRA LOGISTICS
20 Mar - 23 Mar 2018
Paris / France

Materials handling exhibition for industry and distribution

www.intralogistics-europe.com

MAINTENANCE

MAINTENANCE 2018
21 Mar - 23 Mar 2018
Antwerp / Belgium

Maintenance trade show, a boost for the maintenance industry

www.easyfairs.com

Bearing NEWS

PUMPS & VALVES

PUMPS & VALVES
21 Mar - 23 Mar 2018
Antwerp / Belgium

Exhibitions for industrial pumps and valves

www.easyfairs.com

MANUFACTURING

MECSPE
22 Mar - 24 Mar 2018
Parma / Italy

Fair for the manufacturing industry

www.mecspe.com

MACHINERY

EUROSTAMPI
22 Mar - 24 Mar 2018
Parma / Italy

European die, mold and injection machines exhibition

www.mecspe.com

MACHINE TOOLS

MACCHINE & UTENSILI
22 Mar - 24 Mar 2018
Parma / Italy

Machine tools and metal working exhibition

www.mecspe.com

MACHINERY

INDUSTRIE LYON
27 Mar - 30 Mar 2018
Paris / France

French exhibition for production technologies

www.industrie-expo.com

MACHINERY

TOL EXPO
27 Mar - 30 Mar 2018
Paris / France

International exhibition for sheet metal, coil, tube machinery and section equipment

www.tolexpo.com

2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

MARCH

STEEL

BORUTELRULO
28 Mar - 30 Mar 2018
Istanbul / Turkey

Metal pipe, wire and coil manufacturing exhibition

www.tube-wire-coil-fair.com

MINING

UZMINING EXPO
28 Mar - 30 Mar 2018
Tashkent / Uzbekistan

International Mining Industry Exhibition

www.ieg.uz

GENERAL INDUSTRY

MIDEST PARIS
27 Mar - 30 Mar 2018
Paris / France

Maintenance, subcontracting and industrial equipment

www.midest.com

APRIL

AUTOMOTIVE

KIAE
03 Apr - 05 Apr 2018
Astana / Kazakhstan

International automotive parts exhibition

www.kiae.kz

MINING

MONGOLIA MINING
04 Apr - 06 Apr 2018
Ulaanbaatar / Mongolia

International Mining and Oil/Gas Expo

www.mongolia-mining.org

AUTOMOTIVE

AUTOMECHANIKA
05 Apr - 08 Apr 2018
Istanbul / Turkey

International automotive parts exhibition

automechanika-istanbul-tr.messefrankfurt.com

AGRICULTURE

CCMT 2018
09 Apr - 13 Apr 2018
Shanghai / China

China CNC Machine Tool Fair

www.ccmtshow.com

ENERGY

COALTRANS
10 Apr - 11 Apr 2018
Beijing / China

Coaltrans Conferences

www.coaltrans.com

CEMENT

CEMENTTECH
10 Apr - 13 Apr 2018
Nanjing / China

China International Cement Industry Exhibition and COnference

www.cementtech.org

STEEL

TUBE
16 Apr - 20 Apr 2018
Dusseldorf / Germany

International Tube and Pipe Trade Fair

www.tube-tradefair.com

MINING

MININGWORLD RUSSIA
17 Apr - 19 Apr 2018
Moscow / Russia

International exhibition of machines and equipment for mining, processing and transportation of minerals

www.miningworld.ru

MAINTENANCE

MAINTENANCE
17 Apr - 19 Apr 2018
Gorinchem / Netherlands

Technologies for industrial maintenance and asset management

www.easyfairs.com

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2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

APRIL

MATERIALS HANDLING

KOREA MAT
17 Apr - 20 Apr 2018
Kintex / Korea

Materials handling & logistics

www.koreamat.org

GENERAL INDUSTRY

HANNOVER MESSE
23 Apr - 27 Apr 2018
Hannover / Germany

Industrial exhibition for motion drive automation & industrial supply

www.hannovermesse.de

MEDIA PARTNER Bearing NEWS

MATERIALS HANDLING

CEMAT
23 Apr - 27 Apr 2018
Hannover / Germany

World leading trade fair for intralogistics & supply chain management

www.messe.de

MEDIA PARTNER Bearing NEWS

MINING

MINING WEEK KAZAHSTAN
24 Apr - 26 Apr 2018
Karaganda / Kazakhstan

The 14th international exhibiton for mining and exploration, mineral and coal processing and metallurgical technologies

www.miningweek.kz

AUTOMOTIVE

AUTOMECHANIKA
25 Apr - 27 Apr 2018
Ho Chi Minh / France

International automotive parts exhibition

www.automechanika-hcmc.com

AGRICULTURE

AGRISHOW
30 Apr - 04 May 2018
Sao Paulo / Brazil

Agriculture machinery exhibition

www.agrishow.com.br

MARINE

OTC
30 Apr - 03 May 2018
Houston / USA

The Offshore Technology Conference

www.2018.otcnet.org

MAINTENANCE

MCM
Apr. 2018
Milano / Italy

Maintenance conference and expo

www.mcmonline.it

MAY

AUTOMOTIVE

AUTOMECHANIKA
01 May - 03 May 2018
Dubai / UAE

International automotive parts exhibition

www.automechanikadubai.com

FOOD & BEVERAGE

IFFA
04 May - 09 May 2018
Frankfurt/Main / Germany

The No. 1 for the Meat Industry - "Meet the Best!"

www.messefrankfurt.com

MINING

CIM
06 May - 09 May 2018
Vancouver / Canada

Canada's mining market place

www.convention.cim.org

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- Managing Risks Associated with Operating Assets
- IIoT & the Internet of Condition Monitoring
- Predictive, Prescriptive and Prognostic Maintenance
- Asset Condition Monitoring and Management
- Reliability Engineering and Reliability Techniques
- Reliability Leadership and Reliability Culture
- Technician Efficiency and Effectiveness
- Asset Performance Management
- Health and Safety Aspects and Impacts
- ISO55000, 55001, 55002, 55003 & 55004
- Smart EAM Tools and Solutions
- Work Execution Management
- Asset Portfolio Management
- Asset Data Management

efnms
European Federation of National Maintenance Societies vzw

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2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

MAY

GENERAL INDUSTRY

IAMD BEIJING

Beijing / China

International Intelligent Manufacturing Exhibition

www.messe.de

MEDIA PARTNER Bearing NEWS

MANUFACTURING

NATIONAL MANUFACTURING WEEK

09 May - 11 May 2018
Sydney / Australia

General industry and manufacturing expo

www.nationalmanufacturingweek.com.au

MACHINE TOOLS

METALLOOBRABOTKA

14 May - 18.May 2018
Moscow / Russia

Instruments and tools for the metal working industry

www.metobr-expo.ru

MARINE

NAVEXPO

15 May - 17 May 2018
Lorient / France

The maritime business meeting and expo

www.navexpo.com

OIL & GAS

OGU

16 May - 18 May 2018
Tashkent / Uzbekistan

Oil & Gas conference and exhibition

www.oilgas.uz

MACHINE TOOLS

MTA2018

16 May - 19 May 2018
Bangkok / Thailand

The International Precision Engineering, Machine Tool and Metalworking Exhibition & Conference

www.mta-asia.com

STEEL

METAL + METALLURGY CHINA

16 May - 19 May 2018
Beijing / China

Largest exhibition in the equipment manufacturing industry in Asia

www.mm-china.com

AUTOMOTIVE

AUTOMECHANIKA

20 May - 27 May 2018
Madrid / Spain

International automotive parts exhibition

www.motortec-automechanika-iberica.com

CEMENT

TECHTEXTIL NORTH AMERICA

22 May - 24 May 2018
Atlanta / USA

Techtextil North America assembles all vertical aspects of the technical textile industry

techtextil-northamerica.us.messefrankfurt.com

MINING

KAIVOS

23 May - 24 May 2018
Oulu / FInland

Mining Trade Fair and Meeting Forum for the Mining Industry

www.kaivos.fi

MATERIALS HANDLING

LET CHINA

23 May - 25 May 2018
Guangzhou / China

China International Logistics Equipmemnt & Technology Exhibition

www.chinalet.cn

BEARING
-EXPO.com

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BEARING & POWER TRANSMISSION INDUSTRY IS OPEN FOR REGISTRATIONS

www.bearing-expo.com

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- MECHANICAL POWER TRANSMISSION
- ASIAN MANUFACTURERS
- TRAINING

2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

MAY

MACHINE TOOLS

MTM
23 May - 26 May 2018
Kuala Lumpur / Malaysia

Machine tool & metalworking technology exhibition

www.metaltech.com.my

OIL & GAS

CASPIAN OIL&GAS
29 May - 01 Jun 2018
Baku / Azerbaijan

25th Caspian International Oil & Gas Exhibition

www.caspianoilgas.az

JUNE

AUTOMOTIVE

AUTOMOTIVE COMPONENTS
05 Jun - 07 Jun 2018
Stuttgart / Germany

Automotive components and suppliers show

globalautomotivecomponentsandsuppliersexpo.com

GENERAL INDUSTRY

SUBCON
05 Jun - 07 Jun 2018
Birmingham / UK

Manufacturing supply chain and manufacturing

www.subconshow.co.uk

AUTOMOTIVE

AUTOMECHANIKA
05 Jun - 07 Jun 2018
Birmingham / UK

International automotive parts exhibition

www.automechanika-birmingham.com

MATERIALS HANDLING

SIL
05 Jun - 07 Jun 2018
Barcelona / Spain

Exhibition for logistics and material handling

www.ifema.es

CONSTRUCTION

CTT
05 Jun - 08 Jun 2018
Moscow / Russia

Part of BAUMA network

www.ctt-moscow.com

MACHINE TOOLS

ITM POLSKA
05 Jun - 08 Jun 2018
Poznan / Poland

Machine tools and metal working exhibition

www.itm-polska.pl

MATERIALS HANDLING

EXPO PACK
05 Jun - 08 Jun 2018
Mexico City / Mexico

Mexican packing technology show

www.expopack.com.mx

MINING

UGOL ROSSI&MINING
05 Jun - 08 Jun 2018
Novokutznetsk / Russia

Coal and metals mining, processing, handling expo

www.ugol-rossii.com

AUTOMATION

ALL AUTOMATION
06 Jun - 07 Jun 2018
Essen / Germany

Regional automation show of Essen

www.automation-essen.com

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2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

JUNE

WIND ENERGY

QUEBEC WIND ENERGY
11 Jun - 13 Jun 2018
Quebec / Canada

Wind energy conference

www.eolien.ca

MEDICAL TECHNOLOGY

MD&M EAST
12 Jun - 14.Jun 2018
New York / USA

Cutting-edge medical technology

www.mdmeast.mddionline.com

FOOD & BEVERAGE

FOOMA
12 Jun - 15 Jun 2018
Tokyo / Japan

Food & beverage exhibition

www.foomajapan.jp

MINING

CIME
13 Jun - 15 Jun 2018
Beijing / China

China Mining Exhibition CIME

www.bjminexpo.com

MINING

DRC MINING WEEK
13 Jun - 15 Jun 2018
Lubumashi / Congo

The largest mining and industrial platform in the DRC

www.drcminingweek.com

MINING

MINING WORLD CENTRAL ASIA
19 Jun - 21 Jun 2018
Astana / Kazakhstan

International Exhibition for the Mining and Processing of Metals and Minerals

www.miningworld.kz

MACHINERY

ROSMOULD
19 Jun - 21 Jun 2018
Moscow / Russia

Mold making machinery and tooling

www.rosmould.com

CONSTRUCTION

CIBEX EAST-AFRICA
19 Jun - 21 Jun 2018
Nairobi / Kenya

Expo for construction, infrastructure and energy

www.cibexeastafrica.com

CONSTRUCTION

KAZCOMAK
19 Jun - 21 Jun 2018
Astana / Kazakhstan

Kazakhstan road and heavy construction machinery exhibition

www.kazcomak.kz

ENERGY

POWER-GEN EUROPE
19 Jun - 21 Jun 2018
Viena / Austria

Power generation equipment, environmental control equipment and services

www.powergeneurope.com

MATERIALS HANDLING

ROSUPACK
19 Jun - 21 Jun 2018
Moscow / Russia

Exhibition for the packaging machinery

www.rosupack.com

MANUFACTURING

MANUFACTURING JAPAN
20 Jun - 22 Jun 2018
Tokyo / Japan

Cutting edge mechanical components/ manufacturing services

www.japan-mfg.jp

2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

JUNE

MARINE

BALTEXPO
25 Jun - 27 Jun 2018
Gdansk /Poland

Technologies and solutions available for the maritime industry.

www.baltexpo.ztw.pl

ENERGY

PCIM ASIA
26 Jun - 28 Jun 2018
Shanghai / China

Power Electronics, Intelligent Motion, Renewable Energy, Energy Management

www.pcimasia-expo.com.cn

GENERAL INDUSTRY

IAMD SHENZEN
27 Jun - 29 Jun 2018
Shenzen / China

The largest and most influential automation, motion and drive show in South China

www.ia-shenzhen.com

MEDIA PARTNER Bearing NEWS

JULY

MACHINE TOOLS

MTA VIETNAM
04 Jul - 06 Jul 2018
Ho Chi Minh / Vietman

Precision engineering, machine tools and metalworking

www.mtavietnam.com

ROBOTICS

CIROS
04 Jul - 07 Jul 2018
Shanghai / China

China international robotics show

www.en.ciros.com.cn

MINING

IME XINJIANG
18 Jul - 20 Jul 2018
Xinjiang / China

China Xinjiang International Mining Expo

www.imechina.cn

MATERIALS HANDLING

CEMAT AUSTRALIA
24 Jul - 26 Jul 2018
Melbourne / Australia

International Trade Fair for Materials Handling, Automation Technology, Transport Systems and Logistics

www.messe.de

MEDIA PARTNER Bearing NEWS

MARINE

INAMARINE
25 Jul - 27 Jul 2018
Jakarta / Indonesia

Shipbuilding, offshore, marine equipment and machinery expo

www.inamarine-exhibition.net

AUGUST

AUTOMOTIVE

AUTOMECHANIKA
08 Aug - 10 Aug 2018
Atlanta / USA

International automotive parts exhibition

www.automechanikachicago.com

MARINE

MARINTEC SOUTH AMERICA
14 Aug - 16 Aug 2018
Rio de Janeiro / Brazil

Maritieme maintenance and shipbuilding

www.marintecsa.com.br

CEMENT

BBTEE
18 Aug - 20 Aug 2018
Guangzhou Shi / China

China INternational Concrete Block and Brick Industrial Exhibition

www.bbtee.com

2018

EPTDA EXHIBITION & EPTDA PAVILION

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2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

AUGUST

AGRICULTURE

AGRITECHNICA ASIA
22 Aug - 24 Aug 2018
Bangkok / Thailand

Asia's largest trade fair for agricultural machinery and equipment

www.agritechnica-asia.com

AUTOMOTIVE

AUTOMECHANIKA MIMS MOSCOW
27 Aug - 30 Aug 2018
Moscow / Russia

22nd International Exhibition of Automotive Parts, Components, Car Maintenance Equipment and Products

www.mims.ru

MARINE

OFFSHORE EUROPE
27 Aug - 30 Aug 2018
Stavager / Norway

Biggest offshore event of Europe

www.offshore-europe.co.uk

SEPTEMBER

MARINE

SMM
04 Sep - 07 Sep 2018
Hamburg / Germany

The leading international maritime trade fair

www.smm-hamburg.com

PAPER

ICE SOUTH EAST ASIA
05 Sep - 07 Sep 2018
Bitec / Bangkok

International paper converting fair

www.ice-southeastasia.com

MINING

ELECTRA MINING AFRICA
10 Sep - 14 Sep 2018
Johannesburg / South Africa

International Mining, Industrial, Machine Tools and Electrical Trade Show

www.electramining.co.za

GENERAL INDUSTRY

IAMD USA
10 Sep - 15 Sep 2018
Chicago / USA

America's Leading Trade Show for Integrated Automation, Industrial IT, Power Transmission and Control

www.ia-shenzhen.com

MEDIA PARTNER Bearing NEWS

AUTOMOTIVE

AUTOMECHANIKA
11 Sep -15 Sep 2018
Frankfurt / Germany

The World's Leading Trade Fair for the Automotive Service Industry

www.automechanikasa.co.za

MARINE

SMM
04 Sep - 07 Sep 2018
Hamburg / Germany

The leading international maritime trade fair

www.smm-hamburg.com

MATERIALS HANDLING

CEMAT RUSSIA
19 Sep - 21 Sep 2018
Moscow / Russia

International Exhibition for materials handling, warehousing equipment and logistics

www.cemat-russia.ru

MEDIA PARTNER Bearing NEWS

2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

SEPTEMBER

BEARING

BEARINGS 2018
19 Sep - 22 Sep 2018
Shanghai / China

China International Bearing Industrial Exhibition

www.bearingfair.com

MEDIA PARTNER Bearing NEWS

WINDPOWER

GLOBAL WIND SUMMIT
25 Sep - 28 Sep 2018
Hamburg / Germany

Windeurope Conference & Windenergy Hamburg

www.windeurope.org

MAINTENANCE

EUROMAINTENANCE
25 Sep - 29 Sep 2018
Antwerp / Belgium

Since 1972 the most important European congress in the field of Maintenance.

www.efnms.eu

MEDIA PARTNER Bearing NEWS

POWER TRANSMISSION

EPTDA CONVENTION
25 Sep - 28 Sep 2018
London / UK

Annual event of the EMEA Power Transmission Distributors Association

www.eptda.org

MEDIA PARTNER Bearing NEWS

OCTOBER

GENERAL INDUSTRY

MSV
01 Oct - 05 Oct 2018
Brno / Czech Republic

International engineering fair

www.bvv.cz

AUTOMATION

MOTEK
08 Oct - 11 Oct 2018
Stuttgart / Germany

International trade fair for automation in production and assembly

www.motek-messe.de

FOOD & BEVERAGE

AGROPRODMASH
08 Oct - 12 Oct 2018
Moscow / Russia

Machine & equipment foor food and beverage industry

www.agroprodmash-expo.ru

MINING

MINING MYANMAR
11 Oct - 13 Oct 2018
Yangon / Myanmar

Minreal mining machinery & equipment

www.miningmyanmar.com

STEEL

METALEX
11 Oct - 13 Oct 2018
Ho Chi Minh / Vietnam

Metalworking, components and subcontracting

www.metalexvietnam.com

POWER TRANSMISSION

PTDA INDUSTRY SUMMIT
17 Oct - 20 Oct 2018
Hollywood / USA

Annual event of the Power Transmission Distributors Association

www.ptda.org

2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

OCTOBER

MACHINERY

LESDREVMASH
22 Oct - 25 Oct 2018
Moscow / Russia

17th International Exhibition Machinery, Equipment and Technology for Logging, Woodworking and Furniture Industries

www.lesdrevmash-expo.ru

PUMPS & VALVES

PCV EXPO
23 Oct - 25 Oct 2018
Moscow / Russia

International exhibition for pumps, compressors, valves and actuators

www.pcvexpo.ru

STEEL

EUROBLECH
23 Oct - 26 Oct 2018
Hannover / Germany

International exhibition for sheet metal working technology

www.messe.de

STEEL

ANKIROS
25 Oct - 27 Oct 2018
Istanbul / Turkey

International Iron-Steel, Foundry and Non-Ferrous Metals Technology, Machinery and Products Trade Fair

www.messe.de

MATERIALS HANDLING

EURASIA PACKAGING
31 Oct - 03 Nov 2018
Istanbul / Turkey

International packaging machinery fair

www.packagingfair.com

FOOD & BEVERAGE

ISTANBUL FOOD-TECH
31 Oct - 03 Nov 2018
Istanbul / Turkey

Exhibition for food and beverage production chain

www.foodtecheurasia.com

NOVEMBER

MANUFACTURING

HYBRID / COMPOSITES EUROPE
06 Nov - 08 Nov 2018
Stuttgart / Germany

Production of hybrid components and applications

www.hybrid-expo.com

GENERAL INDUSTRY

PTC ASIA
06 Nov - 09 Nov 2018
Shanghai / China

Power transmission and control exhibition

www.ptc-asia.com

MEDIA PARTNER Bearing NEWS

MATERIALS HANDLING

CEMAT ASIA
06 Nov - 09 Nov 2018
Shanghai / China

Material handling, automation, transport/logistics fair

www.cemat-asia.com

MEDIA PARTNER Bearing NEWS

STEEL

MWCS
06 Nov - 10 Nov 2018
Shanghai / China

Metalworking and CNC Machine Tool Show

www.metalworkingchina.com

MECHANICAL ENGINEERING

FMB
07 Nov - 09 Nov 2018
Bad Salzuflen / Germany

The supplier show for mechanical engineering

www.fmb-messe.de

2018 AGENDA
EVENTS, EXHIBITIONS & CONFERENCES

150 KEY INDUSTRIAL EVENTS IN 45 COUNTRIES

NOVEMBER

PAPER

PAPEREX SOUTH INDIA
11 Nov - 13 Nov 2018
Chennai / India

Paper Industry Trade Fair

www.southindia.paperex.in

AUTOMOTIVE

CICEME
21 Nov - 23 Nov 2018
Beijing / China

International Coal Equipment and MIning Technical Equipment Exhibition

www.ciceme.com

ENERGY

SUBCON
05 Jun - 07 Jun 2018
Birmingham / UK

Manufacturing supply chain and manufacturing

www.subconshow.co.uk

AUTOMATION

SPS IPC DRIVES
27 Nov - 29 Nov 2018
Nuremberg / Germany

Electric automation - systems and components

www.mesago.de

PUMPS & VALVES

VALVE WORLD EXPO
27 Nov - 29 Nov 2018
Dusseldorf / Germany

International Valve Trade Fair and Conference

www.valveworldexpo.com

MINING & CONSTRUCTION

BAUMA CHINA
27 Nov - 30 Nov 2018
Shanghai / China

The leading platform for construction machinery, building material machines, mining machines and construction vehicles in Asia

www.bauma-china.com

DECEMBER

MACHINE TOOLS

MANUFACTURING INDONESIA
06 Dec - 09 Dec 2018
Jakarta / Indonesia

8th International Mining, Tunneling, Machinery Equipments and Heavy Duty Vehicles Fair

www.machinetoolindonesia.com

MINING

MINING TURKEY
13 Dec - 16 Dec 2018
İstanbul / Turkey

Mining, Mining Machinery, Equipment and Construction Vehicles Fair

www.madenturkiyefuari.com

WIN EURASIA

BEARING
ROOT CAUSE FAILURE
ANALYSIS WORKSHOP
AT THE WIN FAIR IN ISTANBUL
ON FRIDAY 16 MARCH 2018

Presented by
PER ARNOLD ELGQVIST

SEE PAGE > 22

INDUSTRIE 4.0
REACHES THE NEXT STAGE

With the lead theme ***"Integrated Industry – Connect & Collaborate"***, HANNOVER MESSE 2018 spotlights the potential of this development.

The interplay between automation and energy technology, IT platforms and artificial intelligence is driving the digital transformation of industry. With the lead theme "Integrated Industry – Connect & Collaborate", HANNOVER MESSE 2018 spotlights the potential of this development.

Humans, machines and IT – these are the cornerstones of tomorrow's factories. However, only with networking will they reach their full potential. "The new connectivity – that is, the organization of networks – is taking Industrie 4.0 to the next stage," said Dr. Jochen Köckler, Chairman of the Managing Board, Deutsche Messe AG. "With 'Integrated Industry – Connect & Collaborate' we highlight how connectivity in industry facilitates completely new forms of business, work and collaboration. The result: more competitiveness, better jobs and new business models."

Factory and energy technologies are more efficient than ever. So is data analysis. Industrial IT platforms push their way into the market. Artificial intelligence and machine learning enable machines to make decisions. Engineers digitally simulate entire production chains. New players and new business models emerge, blurring boundaries between industries.

"HANNOVER MESSE is the place to experience the rapid development and impact of Industrie 4.0," emphasized Köckler. "Companies from all over the world demonstrate robots, automation technology, IT solutions and software as well as platforms for networking. Only in Hannover will you see the digital transformation of industry as a complete system."

The lead theme "Integrated Industry – Connect & Collaborate" is relevant to many branches of industry. For example, companies of all sizes can easily use human-robot collaboration. The digital twin, a virtual representation of a product connected to manufacturer and customer data, optimizes production processes. Energy is another area where digitalization and networking are proceeding rapidly. For example, virtual power plants feed energy from various producers precisely into the electricity grid. Or in the areas of energy transition and mobility, electric vehicles store energy and can then distribute their electricity to consumers to stabilize fluctuations in the grid.

Smart Supply in the age of digitalization opens up new perspectives for industrial subcontractors: Supply chain management, simultaneous engineering, optimized production runs, and minimal error rates – all of this is possible when suppliers and customers see each other as development partners and collaborate as equals.

The new connectivity also changes the role of factory workers, who now have direct access to all relevant production and machine data. Intelligent machines support them in their decision-making.

Industrial IT platforms play a crucial role. Collecting, analyzing and merging large amounts of data from different sources, combined with the respective industry expertise, makes it possible to develop internet-based services that bridge traditional industry boundaries.

Industrie 4.0 is also changing production logistics as well as the demands placed on logistics companies. More and more, customers want individual solutions from a single source. The intralogistics tradeshow CeMAT, which runs parallel to HANNOVER MESSE, reflects this trend. Consequently, visitors at the Hannover Exhibition Center will profit from the

complete “Industrie 4.0 meets Logistics 4.0” experience.

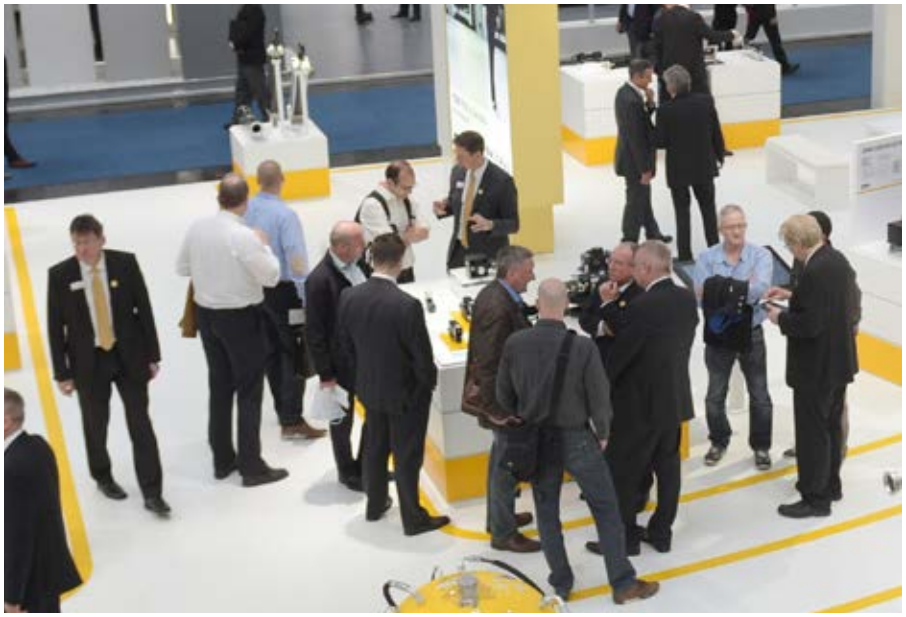
All of the above are examples of connectivity and collaboration that exhibiting companies from around the world will present at HANNOVER MESSE 2018. Furthermore, more than 80 conferences and forums will explore the lead theme, once again confirming HANNOVER MESSE as industry’s innovation platform and catalyst for trends.

HANNOVER MESSE USA To Premier In Chicago September 2018

The world’s leading trade show for industrial technology is spreading its wings. In September of 2018, Deutsche Messe is staging its first-ever HANNOVER MESSE in the USA.

HANNOVER MESSE is the world renowned trade show brand synonymous with industrial innovation, key trends and business leads. The event has long made a name for itself as a global hotspot for Industry 4.0 technologies. CEOs of global corporations, managers of SMEs and leaders of the world’s major industrial nations all use HANNOVER MESSE (currently staged annually in Hannover, Germany) to keep up with the latest trends and developments in industrial digitalization. This strong profile has yielded steady growth in the show’s German and international exhibitor and visitor following. This year, more than half of HANNOVER MESSE’s exhibitors and some 70,000 of the show’s visitors came from outside Germany.

“There is no other trade show brand like it anywhere in the world,” commented Deutsche Messe Managing Board Chairman Dr. Jochen Köckler. “We now want to leverage the power of the HANNOVER MESSE brand to speed up growth in our foreign markets. “Therefore, we are premiering HANNOVER MESSE USA co-located with IMTS September 2018 in Chicago.”



Internationalizing its strong, German-grown trade show brands is a strategy Deutsche Messe has been successfully pursuing for many years, and the company now stages some 60 events outside Germany every year. The bulk of these are industrial trade shows, dealing with specific sectors such as industrial robotics, factory automation, energy technology and industrial supply.

Deutsche Messe has had a presence in the U.S. market for many years and has been running trade shows in Chicago since 2012. Starting in September 2018, it will now cluster these Chicago-based shows under the brand name "HANNOVER MESSE USA". "As a brand, HANNOVER MESSE has been steadily adding to its acclaim in the U.S. market, in part thanks to the country's Partner Country showcase in 2016 – a momentous event attended by President Barack Obama. By launching HANNOVER MESSE on U.S. soil, we hope to attract even more exhibitors and visitors to Chicago while also generating positive spin-off effects for HANNOVER MESSE at its home base in Hannover, Germany," said Köckler.

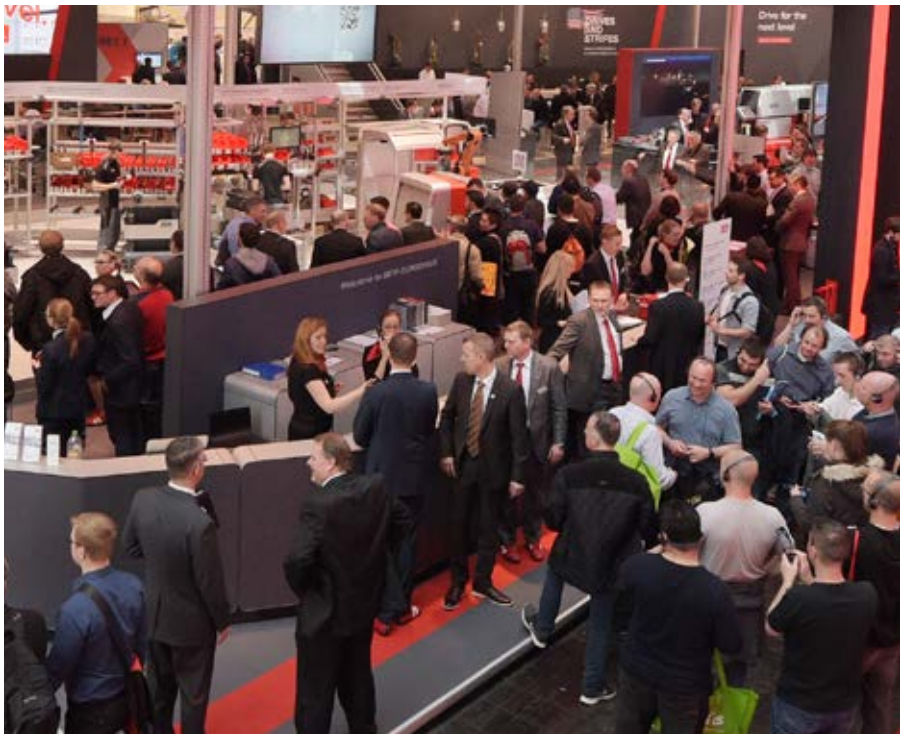
The premiere of HANNOVER MESSE USA is expected to attract some 550 exhibitors and more than 100,000 visitors and will occupy about 130,000 square feet of display space. For comparison, next year's HANNOVER MESSE in Hannover, Germany is likely to attract more than 5,000 exhibitors and about 200,000 visitors. Köckler added, "Our trade shows outside Germany are aimed exclusively at local and regional visitors. Our trade shows in Hannover, Germany, on the other hand, will continue to be pitched as the global flagships of their respective target industries, and will thus remain focused on an international clientele."

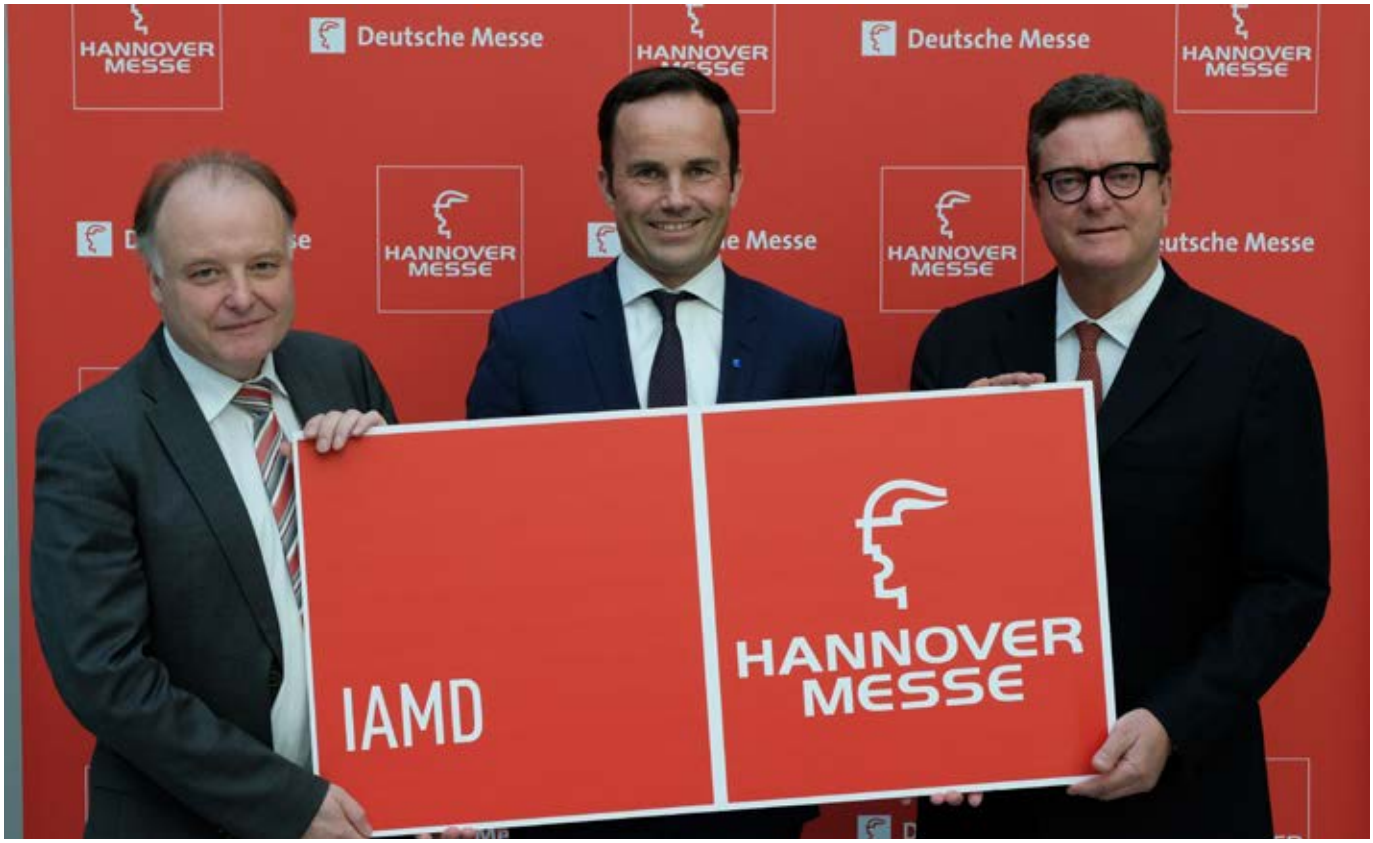
Merger driven by leading companies and major industry associations

The merger culminating in the new IAMD show comes at the express wish and initiative of leading HANNOVER MESSE exhibitors and major German industry associations. "Transmission and fluid power systems play a key role in engine performance," comments Christian Kienzle, Chairman of the Fluid Power Association within VDMA (the German Engineering Federation) and CEO of the Argo-Hytos Group. "With digitalization, these systems have now also become important data sources. Two years are an eternity in the age of digitalization. That's why it's important that we have the opportunity to put our latest solutions in front of customers without undue delay," he adds.

"The automation industry's sensor, control and networking products, systems and solutions are the 'enablers' of the fourth industrial revolution. And by bringing them together with electronic and mechanical drive systems under the Integrated Automation, Motion & Drives umbrella, Deutsche Messe has created a flagship fair that covers the entire factory shop floor and shows how it can be integrated into the Industry 4.0 environment," remarks Dr. Gunther Kegel, the head of German industry association ZVEI's measurement technology and process automation division and Managing Director of Pepperl + Fuchs GmbH.

The new IAMD show comprises production, process and energy automation systems; robotics; industrial IT; hardware and services; production





technologies and services; transmission and fluid power components and systems; pneumatic and hydraulic systems; plain and rolling bearings; geared motors; linear technology; and sealing technology. A comprehensive, topical program of supporting events, including the Industry 4.0 Forum and the Predictive Maintenance special display, will further boost the show's innovation credentials.

IAMD to build worldwide presence

Deutsche Messe plans to roll out the IAMD brand to key markets around the globe. This will open up further opportunities for companies wishing to export to emerging and fast-growing economies with an enhanced need for automation solutions, such as China. Deutsche Messe's existing offshoot tradeshows in China, Canada, the US and Turkey will be successively restructured and rebranded in line with the parent event in Germany. The company also has plans to establish IAMD shows in other key markets.

HANNOVER MESSE – Get new technology first!

HANNOVER MESSE is the world's leading trade show for industrial technology. With its core focus on "Integrated Industry" and "Integrated Energy", it is the No. 1 global platform for Industry 4.0. The show will next be held from April 23 to 27,

2018 in Hannover, Germany, and will provide a comprehensive overview of the latest visions and technologies for the digitization of production and energy systems. The upcoming HANNOVER MESSE will feature five parallel shows: IAMD (Integrated Automation, Motion & Drives), Digital Factory, Energy, Industrial Supply and Research & Technology. It will also be co-staged with CeMAT, the world's leading trade fair for intralogistics and supply chain management. Mexico will star as the Partner Country of HANNOVER MESSE 2018.

Deutsche Messe

IAMD

HANNOVER MESSE

23 – 27 April 2018 ▪ Hannover ▪ Germany

The EPTDA/PTDA Pavilion

International PT/MC distributors join forces at HANNOVER MESSE 2018

For the fifth time the EPTDA/PTDA pavilion in Hannover will provide distributors and manufacturers of power transmission and motion control technology with an excellent opportunity to take part in a joint display in an ideal industrial context.

The joint display has featured at four successive trade fairs in Hannover. Since it was first staged in 2011 the organizers have further improved the concept and consolidated its early success. As the leading trade fair for integrated automation, industrial IT, power transmission and control, IAMD offers the members of EPTDA and PTDA an ideal platform for the global marketing of their products and services. No other event boasts such a concentration of suppliers of power transmission technology, components and systems, thus complementing the array showcased by distributors.

Keynote themes

EPTDA PTDA

HANNOVER MESSE

Integrated Automation, Motion & Drives
Hallen / *Halls* 8, 9, 11, 12, 14–17, 22, 23

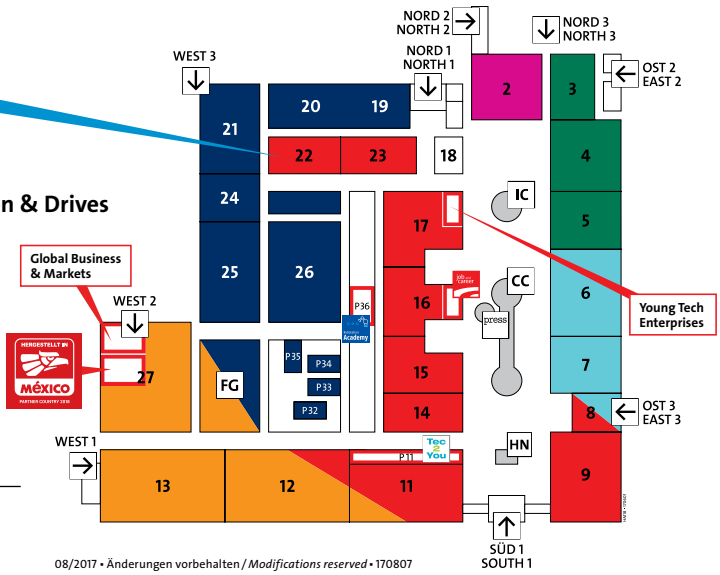
Digital Factory
Hallen / *Halls* 6–8

Energy
Hallen / *Halls* 11–13, 27, FG

Industrial Supply
Hallen / *Halls* 3–5

Research & Technology
Halle / *Hall* 2

CeMAT
Hallen / *Halls* 19–21, 24, 25, 26, FG,
Pavillon / *Pavilions* 32–35



job and career (Halle/*Hall* 17)

Tec2You (Pavillon/*Pavilion* 11)

Robotation Academy (Pavillon/*Pavilion* 36)

Eingang *Entrance*

IC Informations-Centrum *Information Center*

CC Convention Center

HN Haus der Nationen *House of Nations*

press Presse-Centrum *Press Center*

FG Freigelände *Open-air site*

08/2017 • Änderungen vorbehalten / *Modifications reserved* • 170807

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EPTDA/PTDA Pavilion: At the heart of the world's No.1 industrial show

By joining the EPTDA/PTDA members' pavilion, you can still place your company in the spotlight but with minimal effort and expense. As part of a joint display you reduce your organizational and financial commitment but can still reach your target audience and benefit from excellent services.

The EPTDA/PTDA pavilion facilitates the participation of its members in a major highlight at a leading global event, while ensuring that all exhibitors can promote their own company profile. Exhibitors enjoy access to the EPTDA/PTDA Lounge, where they can relax, network with colleagues and have one-to-one meetings with customers. Free beverages (hot & cold drinks) and snacks are available throughout the event.

If your stand is integrated in the EPTDA/PTDA members' pavilion you are guaranteed a prime location. The participation fee includes stand space and construction, as well as basic fittings and furnishings. Naturally, you are also free to add additional equipment.

As a member of the EPTDA/PTDA you benefit from the organizational and on-site support of the EPTDA team. The team members are not only at your disposal throughout the trade fair, but also in the run-up to the event and during post-show activities.

The exhibiting companies represented at the EPTDA/PTDA joint pavilion automatically benefit from the effective PR and marketing efforts of the EPTDA and HANNOVER MESSE.

Stand space and construction

- Wall elements, carpeting, company logo on fascia
- Lighting, power supply incl. free consumption
- 1 table (round) with 4 chairs, lockable information desk, 1 bar stool, 1 literature rack, 1 waste basket
- Internet connection

Jointly shared area

- Eye-catching elements
- Business lounge with tables and chairs
- Catering service at all times (hot & cold drinks/snacks)
- Storage room with kitchen area

Services

- Main exhibitors featured in the exhibitor catalogue
- Organizational and onsite support, hostess service during trade fair, security
- Basic stand cleaning

Participation fee	€ 590/m²

incl. € 340 registration fee (obligatory)

Six good reasons to exhibit at HANNOVER MESSE:

1. Access to established and emerging markets
2. Opportunity to showcase products to decision-makers from around the globe
3. Generation of international sales
4. Opportunities to identify potential joint-venture partners
5. Increased global awareness of your company
6. Unique comparison of products and competitors on the global marketplace

More EPTDA and PTDA services

The EPTDA and PTDA serve the same mission of supporting and informing members in a changing market environment. They provide extensive member services, including market and economic forecasts, trend surveys and training.

Annual Industry Summits

The annual conventions held by the EPTDA are highly acclaimed by professionals as B2B events that offer insights into business strategies, trends and developments. This year's 20th Anniversary **Annual Convention in Rome** in September will showcase the best solutions, new initiatives and industry information. Some 400+ delegates and high-calibre guests from nearly 200 companies in more than 30 countries are expected to attend this prestigious event.

Also in September, the PTDA Industry Summit 2017 will bring together hundreds of power transmission/motion control industry leaders at the Diplomat Beach Resort Hollywood, Florida. The summit will deliver cutting-edge presentations, the latest information on markets and business trends, and facilitate the networking that is now so critical to business success.

Academy & Training

Across most of industry there is a growing need for qualified, well-trained personnel. The EPTDA/PTDA have responded by supporting its member companies with strategies and training to help them recruit, retain and develop the right personnel. For example:

- Online product training to help members face market challenges by knowledge sharing and dialogue. The EPTDA platform can be used to advertise internship and apprenticeship programs, as well as potential research projects.
- Careers Services: These involve posting job searches and offers, thus helping members and PT/MC professionals to realize career goals and fill vacancies. The EPTDA Academy and the PTDA's University of Industrial Distribution, USA, are part of an extensive education program.

EPTDA Product Locator

The EPTDA Product Locator is a powerful search engine that helps end-users, customers, distributors and manufacturers find the right product for the right market. Users can be confident that they will find quality products that reflect best industry practice and business ethics. The product search can be conducted by country, product category or brand name. The search engine currently features more than 15 product categories.

For more information:
www.eptda.org
www.ptda.org

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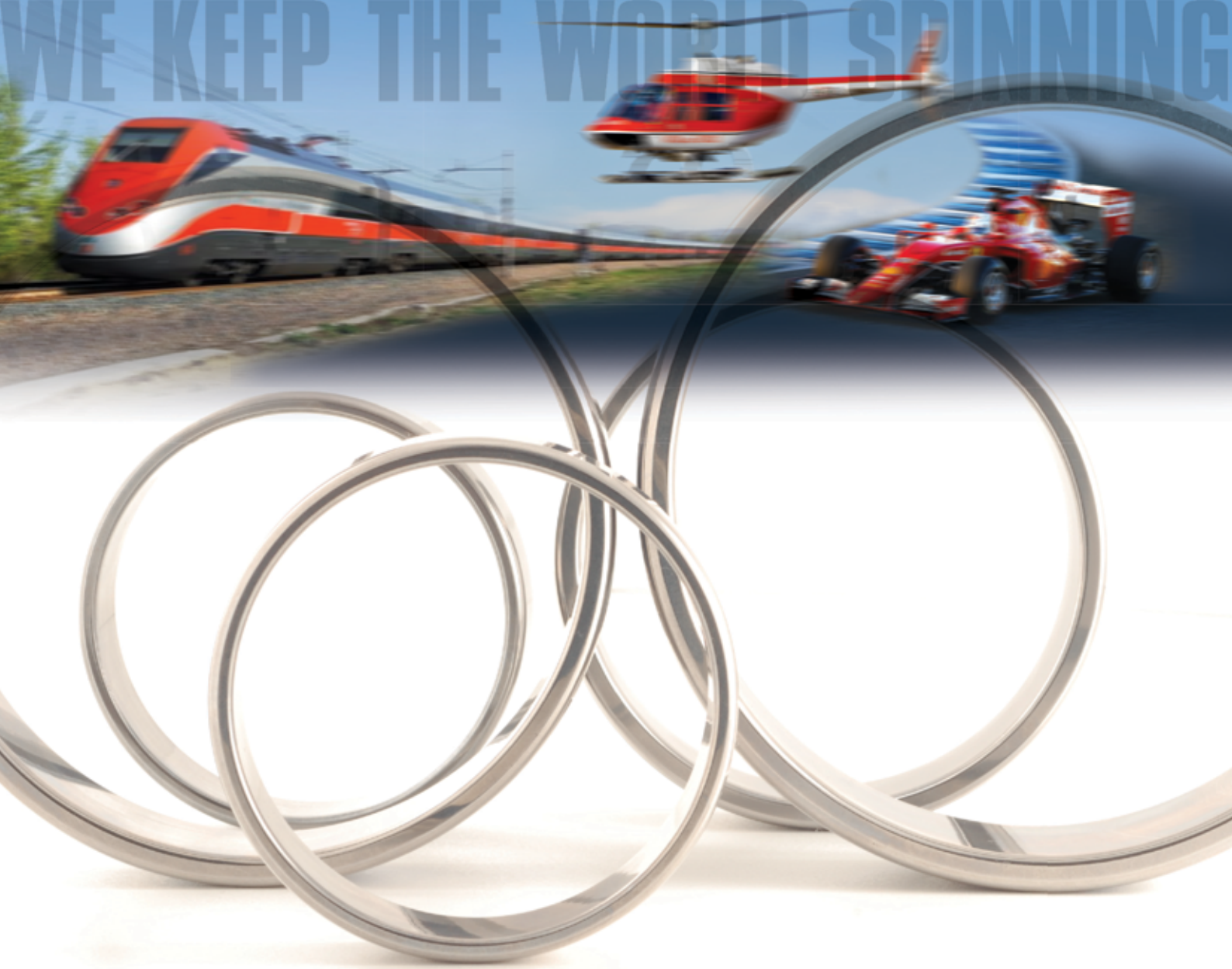

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The opening conference presentation of the Bearing Reliability Conference & Expo which was held on 10 - 12 October 2018, was presented by Todd C. Snelgrove. Todd is what is referred to as a Global Value Merchant, always advocating the power of Increasing You and Your Customer's Bottom Line by demonstrating, documenting, procuring, pricing and selling based on best Total Profit Added™.

Global Vice President of Value with over 15 years' experience in being the team leader on understanding, presenting, calculating pricing, and purchasing on Total Cost of Ownership (TCO) or Total Profit Added™ (TPA™), Todd is acknowledged to be a leading subject matter expert in the field of value.

The topic of Todd's presentation was "The Bearing Industry, Value First Then Price"; refering to his new book. We tried to explore the key aspects of Value in the industrial maintenance and reliability world during an interview with Todd C. Snelgrove.

What was the reasoning of your new book?

To look at this concept of value and discuss not only best sales practices from companies that sell, price, market based on value and that have an institutionalized program such as DHL, Parker Hannifin, along with the newest academic research by the best in the business Dr James Anderson from Kellogg. Tied together by some of the best thinking from sales associations such as Strategic Account Management Association. Also looking from the buyer's perspective that explains, how I want to buy, how and when will I pay more for something? It seems all the different groups came back with the need to quantify the value, but numerous other things needed to be done on both the buyer and sellers perspective.

You described a new holistic measurement of measuring value called Total Profit Added™ vs Total Cost of Ownership – what's the difference and why was a new measurement of value needed?

Total Cost of Ownership has been used in the Information Technology environment for years to look at all the costs that will be saved by using technology over the lifecycle of the hardware and service. I started applying this to the industrial world about 15 years ago or more, looking at the customers Acquisition, Installation, Operation, and Maintenance Phase, and finally the Disposal phase. However, the more I looked at all the ways a customer could make money the more I kept evolving TCO to not only look at COST savings, but what industrial companies can do to increase the other lever of business – that being the REVENUE side. Companies should look at which supplier of a product or service that can make them the most PROFITABLE – that being the positive revenue increases by increasing production, yield, time to market, flexibility PLUS the costs saved by using less energy or lubrication or manpower MINUS the investment in the solution (versus the next best alternative). I referenced two quotes from Procurement experts from the book about this evolution.

This book challenges many of the assumptions that exist in inter organizational relationships. It truly is possible to achieve win-win outcomes that drive mutual value and shared risks and rewards, Snelgrove explores this proposition in detail, providing a great read for practitioners. Robert Handfield Bank of America Distinguished Professor of Supply Chain Management Director, Supply Chain Resource Cooperative North Carolina State University

Snelgrove's measurement of a new view on Total Cost of Ownership (TCO), a more holistic measurement focused around Cost, Benefit, and Value called Total Profit Added ™(TPA) is a great step in the evolution of enabling both buyers and sellers to make the right decisions based on best value not lowest price." Prof Thomas Choi Center for Advanced Procurement Studies and Professor Arizona State University

Will procurement pay for value?

The answer is a resounding yes. Five chapters were written by thought leaders in the procurement world. However they explained, what a sales organization has to do to get them to pay for that value. Such things as quantify it, be willing to get paid on the delivery or realization of the value, proactively bring them ideas to be more profitable versus waiting to respond to the RFP, RFI, RFQ etc.

What is the benefit for companies that are good at selling on Value?

So many. Professor Anderson's research, starting with the Seminole 2007 Value Merchants Book showed that customer churn decreased, sales cycles shorten, increased share of wallet, and reduced discounting. One of my favorite pieces of research comes from the Monitor Pricing Group, now part of Deloitte, that shows that when comparing companies in the same industry, the ones that were "Good at Value" were 24% more profitable than the industry average, ones that took the "Value Approach" but were not the best at it were still 6% more profitable than the industry average, and companies that took a Cost or Share driven strategy were 9% less profitable than the industry average. Seems low price that meets the minimum customer requirement is not the way too be sustainably profitable.

What is the benefits for companies buying on Total Profit Added?

I believe it's the companies that have the most innovative supply chains that will create a competitive advantage. Buying cheaper parts won't get the average cost per widget down, true efficiencies need to be created to win in a global market place, and suppliers will bring these to the companies that reward them. Some studies I reference, a study done by Manufacturers Alliance for Productivity and Innovation (an association I am a member of), showed that companies that procured on Total Profit Added™ – a wider view of TCO were 35% more profitable than ones that didn't. A study I was involved with by the global procurement consulting strategy group called State of Flux showed that suppliers that engaged using Supplier Relationship Management (SRM) received between 4-6% more value than the contract called for – just by engaging suppliers differently around value. Finally the award winning research from Prof Kate Vitasek at University of Tennessee, based on the Nobel Economic Prize winning 2009 research by Oliver Williamson, shows that companies that enter true partnerships, Vested Sourcing, are by far the best of breed.

What are some of the things that companies do taking a value approach that do not work?

The stick approach.
Giving a sales force
a number of success stories to log, or number of value cases to be created. One of my favorite quotes is the more you measure something the worse the quality gets. Yes the box will be ticked, but did you ingrain it in how you do business, or how you think.

How do you start to quantify the value of your products or services?

Three take ways I have. One is to walk the life of your product or service from the whole customer experience, how is it received, up packed, inventoried, installed, disposed of – then you can see the effects it has. Secondly, once you have a list of benefits – more reliable, faster, lasts longer etc. – sit down and do an exercise I run called SO WHAT? (Similar to the 5 Why's)– What is it worth for this to be faster etc. Finally, start by building a model on a piece of paper with some basic formulas, your numbers and ranges will become more accurate the more cases you log, but it's okay to start with a range and then evolve.

What are some of your key learnings?

It does not work when companies look at a value strategy as an isolated Program, a silver bullet. It is not about just training your team, building a calculator, or incentivizing them. It is about an ongoing culture change program, and successful companies treat it this way. By having an owner to drive, evolve, champion and update it. In the book Professor Anderson and me discuss the two facets for a program really to work. One you need the ability to sell value – this is where most companies start and stop, the second component is the want to sell value. The second part is the ongoing cultural evolution that needs to happen to ingrain Value in everything your company does.

It is not easy, but it's not as hard as some people think. If you don't create incremental customer value, then don't be surprise at customers to focus on unit price. The journey is worth the investment, the payback is the biggest you can have in your business.

Todd can be contacted for Key Note sessions at Global Management or Sales Meetings, OEM / End User Customer Events or Distributor events to discuss buying, selling, pricing based on value, or employment opportunities at ***todd.c.snelgrove@gmail.com*** or ***www.linkedin.com/in/toddsnelgrove***

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