



 <p><b>COMMERCIAL AND INDUSTRIAL</b></p> <p>HEATING, POWER, COOLING</p> <p><b>BOSCH</b></p>	<p><b>Image presentation Commercial and Industrial (TT-CH)</b>  <a href="#">German &amp; English</a> (173 MB)</p> <p>Note: The reference presentations (pages 25-28) are included within the image presentation. Additionally, you can download the individual files with the link below:  <b>Reference presentations of Commercial and Industrial image presentation</b>  <a href="#">German &amp; English</a> (58 MB)</p>	<p><b>16:9 version will be available soon</b></p>
 <p><b>BOSCH KWK SYSTEME GMBH</b></p> <p>DECENTRAL ENERGY SUPPLY SINCE 1983</p> <p>ELECTRICAL POWER – HEAT – COMPRESSED AIR</p> <p>Recovering</p> <p>TECHNICAL SERVICE</p> <p><b>BOSCH</b></p>	<p><b>Image presentation Bosch KWK Systeme</b>  <a href="#">German &amp; English</a> (14 MB)</p>	
 <p><b>Corporate presentation - Bosch Industrial Boilers</b></p> <p>The benchmark for industrial boiler technology</p> <p>Thermotechnology</p> <p><b>BOSCH</b></p>	<p><b>Image presentation Bosch Industriekessel</b>  <b>General presentation of Bosch and Bosch Thermotechnology - shorten versions</b>  <a href="#">German &amp; English</a> (315 MB)</p>	
 <p><b>Energy efficiency</b></p> <p>Modern solutions for efficient generation of process steam</p> <p>Thermotechnology</p> <p><b>BOSCH</b></p>	<p><b>Energy Efficiency</b>  <a href="#">German &amp; English</a> (35,9 MB)</p>	



**Controls for Boiler Systems**  
*Outdated version - under revision*



**Modernisation of Boiler Systems**  
[German & English \(17,1 MB\)](#)

<p><b>Reference Brewery Pivovar Klášter</b></p> <p><b>The companies involved</b></p> <p>Operator: Pivovar Klášter, s.r.o.</p> <ul style="list-style-type: none"><li>• Traditional art of brewing since 1394</li><li>• Former monastery of the Cistercians in the Czech Republic</li><li>• Production of 5 different beer specialities</li><li>• Annual production: around 76 000 hectolitres</li><li>• Steam and hot water demand for e.g. mashing, boiling and cleaning</li></ul> <p><b>Modernization of the process heat supply</b> to increase reliability of supply and efficiency – existing system &gt;30 years in operation</p> <p>Our partner: Bosch Termotechnika s.r.o.</p> <p><b>Thermotechnology</b> <small>© 2017 Bosch Thermotechnika s.r.o. All rights reserved. Also regarding any drawings, specifications, brochures, selling, distribution, or use as to the extent of application for industrial property rights.</small></p> 	<p><b>Reference presentations</b></p> <p>German &amp; English (62 MB)</p>	<p>Industries:</p> <ul style="list-style-type: none"><li>-Breweries/Beverages</li><li>-Building material</li><li>-Dairy</li><li>-District heating</li><li>-Food</li><li>-Hospitals</li><li>-Hotel</li><li>-Retrofitting projects</li></ul>
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Please find below a list of topics for customer seminars. It's a great way to connect with existing and potential customers and comparatively affordable compared to trade fares etc. We recommend group sizes of max. 70 persons.

Please let us know in case you need support in organizing your own local customer seminar. In case you need support by one or more presenters pls. contact: [daniel.gosse@bosch.com](mailto:daniel.gosse@bosch.com) and we will find a way to support you.

Last years' topics from seminars in Gunzenhausen and Bischofshofen, presentations can be provided on request:

Duration	Topic	Year	Content
20 min	Update: Changes in emission regulations for CHP and boiler systems	2017	European emission legislation, MCPD, BImSchV
30 min	Chemical additives for boiler systems	2017	Chemicals for water treatment, influence of chemicals on water directive B002, boiler damages due to bad water quality
45 min	Water chemistry - ideal conditions for boilers	2017	Substances in water, water treatment in steam boiler systems (water softening, reverse osmosis, deaeration, etc.)
30 min	Waste heat use in practice	2017	Variations of waste heat use, waste heat boiler, 4-pass boiler, practical examples
45 min	Practical know-how: pumps in steam boiler systems Pump specification and avoidance of mistakes (external speaker)	2017	Correct pump selection for feed water supply, physical basics, characteristic, operation modes, avoidance of mistakes, considerations in operation
45 min	Power, steam, cooling: CHP in the food industry (external speaker)	2017	Energy requirements in the food industry, energy flows in trigeneration systems, absorption refrigeration plant for low-temperature range, cooler, economic comparison, practical examples
45 min	Optimizing boiler system operation	2017	Influencing factors, intelligent support by MEC Optimize
35 min	Bosch research focus "Smart Building and Energy"	2017	BIM and Internet of Things (project vision, targets, use cases), net reactive buildings, future building technology
30 min	Remote control and monitoring of boiler systems for optimized operation	2016	MEC Remote, remote access and authorizations, technical integration, security, practical examples
50 min	Acoustics - practical planning and avoidance of mistakes in design (external speaker)	2016	Definition of sound, frequencies, sound pressure, emissions/immissions, insulation/absorption
45 min	Control multivalent systems effectively	2016	Energy flows, modular design of measurement and control technology, degree of utilisation, energy supply concept, procedure for multivalent systems
30 min	EU emissions legislation and its impact on BImSchV ("federal pollution control act")	2016	European emission legislation, draft for TA-Luft (German air quality control regulations), impact on BImSchV, design example, solutions
60 min	Planning of condensate lines Hints from praxis and examples (external speaker from Flowserve Gestra)	2016	corrosion in the steam system, steam pressure reduction station, steam line drainage, avoidance of water impact in the heat exchanger

20 min	How quality boilers are manufactured?	2016	welding quality, welding robots, manipulators, control of quality, safety at work
30 min	Energy management of the future Trends and potentials (external speaker)	2016	energy management 4.0, examples from praxis, procedure and solution approach, subsidy, research project "smart consumer"
30 min	Application fields and design of steam accumulators	2016	functionality, steam quality, dimensioning, equipment, connection of steam accumulators
50 min	Technical design of waste heat systems for heat generation plants	2016	planning information, examples of adverse waste heat systems, general information on waste heat systems
30 min	Control of complex heating boiler plants and design of the pressure maintenance	2016	control with MEC System, main tasks / types / connection / settings of pressure maintenance systems
30 min	Boiler service life - field of observation	2016	experiences, influencing factors, examples of boiler damages, argumentation for boiler test and supervision
45 min	Approval process for boiler systems What are the key issues for modernisations (external speaker TÜV)	2016	permission procedures, modifications on a steam boiler plant, approval process, information based on the guidelines
60 min	Steam boiler system: Optimal planning and design. Avoiding mistakes.	2015	start situation, customer specific facts of steam parameters about material flow up to piping and exhaust systems
40 min	Plant integration into system control and process control	2015	bus systems, linkage of boilers and plant management, functional control/ data management, hints from praxis
25 min	Switching to gas and gas quality Cosequences for operators; planning future-proof.	2015	gas quality L/H-Gas, combustion process, impacts on burner & engine in gas switching, possible reactions when switching
30 min	Modernize or replace - when is what profitable? Application example "Fleischwaren Sutter"	2015	definition/ distinction, changing or modernization, energy quick check example
45 min	Energy supply in transition: Flexible solutions for the energy turnaround (external speaker)	2015	short company presentation N-Ergie, energy revolution as political and social target analysis of changing for participants on the energy market
30 min	Real plants in virtual power plant: Energy trading for small and middle companies (external speaker)	2015	company presentation Energy2market, (direct) merchandising, virtual power plants, balancing energy, portfolio management
20 min	How quality boilers are manufactured?	2015	welding quality, welding robots, manipulators, control of quality,safety at work
60 min	Effective use of condensate in practice	2015	steam networks and condensate economy
30 min	Boiler damages: Early detection, prevention, examples	2015	Ordinance on Industrial Safety and Health, boiler feed water quality,

	(external speaker from TÜV)		damages, mistake analysis
55 min	Hot water boiler system: Optimal planning and design. Avoiding mistakes.	2015	overview, selection criteria, avoiding mistakes
45 min	Exhaust gas regulations for industrial heating generators, what is the trend? (external speaker from burner manufacturer)	2015	Nox, comparison with vehicle emissions, best practice examples
30 min	Bosch large specified system business	2014	portfolio, advantages system technology
45 min	Measures to increase efficiency of process heat systems	2014	energy optimization at steam boiler plants with Eco, Luvo, O <sub>2</sub> -/CO-regulatio, speed control, isolation, sludge pressure reducer, vapour cooler, condensate plant, water analysis and control
45 min	New: Analysis tool BCO Remote connection	2014	function/ customer use of condition monitoring Remote diagnosis function MEC
45 min	Project report air preheating	2014	project process, practice Luvo, result
45 min	Reference project CHP	2014	diverse examples of CHP plants
45 min	Master Energy Control	2014	reduce intricacy, function, customer use
45 min	Project report Hospital Traunstein	2014	system combination 4th path boiler & CHP from Bosch, start situation, need, challenge, concept
30 min	Changes EEG Recent and dicussed changes Regulations	2014	Impact on CHP with renewable fuels, EEG reallocation charge, ecodesign boiler 1-50 MW, Medium Combustion Plant (MCP), gas quality in Europe
30 min	Modernization pays off Modernization project	2014	reasons for modernization, calculation examples example Oettinger Brewery
30 min	Reference plant Beck & Heun	2014	start situation operation of energy generation plants prevention of costs, simplification of control, reduce intricacy with MEC Master Energy Control
60 min	Steam generators and heating systems efficiency increasing measures within the plant and in the system network with further technologies	2013	energy optimization at steam boiler plants with Eco, Luvo, O <sub>2</sub> -/CO-regulatio, speed control, isolation, sludge pressure reducer, vapour cooler, condensate plant, water analysis and control
45 min	Operational energy supply with CHP Technical solutions (operation, power range,...) Legal framework in Germany Internal power production vs. electricity feed-in	2013	company information Bosch CHP operation, interpretation, installation, service of CHP plants with plant examples, legal framework in Germany, internal power productin vs. electricity feed-in
45 min	Bosch waste heat boilers New releases in the delivery program Projects	2013	HRSB product description, compare HRSB 4th pass boiler, air preheating APH product description, examples
	Learning from mistakes...		

45 min	Selected cases of damage in the operation of steam plants	2013	damage at a heat recovery boiler, damage at expansion fittings in a superheated steam line
45 min	Pinch analysis for optimization of the process internal heat recovery within industrial projects	2013	systematic analysis and optimization of energy usage, practice pinch analysis and targets
45 min	System control "Next Generation"	2013	start situation operation of energy generation plants prevention of costs, simplification of control, reduce intricacy with MEC Master Energy Control
30 min	Recent and discussed changes in legislation	2013	Ordinance on Industrial Safety and Health (Germany), EN 12953 (Europe), ecodesign guideline (Europe), ABD-V (Austria)
30 min	Modernization pays off Retrofitting project steam boiler	2013	background/ argumentation, example modernization project
30 min	Partnerships with our customers Reference plants	2013	presentation of reference plants (steam boiler), new references: customer motivation
30 min	Increasing efficiency by air preheating	2012	Comparison air preheating / exhaust gas condensation implementation options, savings
30 min	4-pass boiler	2012	interconnection and construction combination with CHP
30 min	Expansion product portfolio: Water tube boiler	2012	Comparison water tube boiler / shell boiler portfolio and feature water tube boiler
45 min	New service solutions related to the boiler house	2012	72h- service, commissioning of Buderus boilers, burner service Weishaupt, Saack, Dreizler, Riello, dosing and water analysis, plant analysis, welding repair
90 min	From water treatment, steam supply, up to condensate management, Overview of planning instructions	2012	analysis starting situation, softening osmosis, energy optimization at steam boiler plants automation with SUCces
45 min	Possibilities and approaches to optimize existing plants	2012	equipment status of existing plants, approach and measures for optimization
30 min	Error prevention in planning, installation and operation of shell boiler plants	2012	specific examples with pictures error prevention