



9 to 11 June 2019 – Bangkok, Thailand

6th Brewing Conference Bangkok 2019

D-ERA: Disrupt / Digital / Diversify / Development

Challenges and Opportunities for the Brewing Industry in South-East Asia

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 VENUE: Bangkok International Trade & Exhibition Center (BITEC)

 LANGUAGE: ENGLISH

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GENERAL INFORMATION

About the conference

The Brewing Conference 2019, jointly organized by the Thailand Beer Industry Guild (TBIG) and VLB Berlin will be the 6th of a series of international brewing industry conferences held in Bangkok. The informative program, structured by the VLB and TBIG, draws upon a rich knowledge base of international brewing and beverage industry professionals to provide a region specific program covering the crucial issues most pertinent to brewing operations in Asia-Pacific.

Target group

This conference is suitable for managers and senior staff of breweries, maltings, the beverage industry and their suppliers in the areas of technology, technical management, product development and quality control. The presentations cover advanced topics from state-of-the-art brewing technology.

Language

The presentations will be held in English exclusively. Translations into other languages will not be provided.

Conference venue

The Brewing Conference 2019 will be staged at the Bangkok International Trade & Exhibition Centre (BITEC), Main building, Level 1.

The easiest ways to reach BITEC are by taxi or by BTS Skytrain. Visitors travelling to BITEC can get off the train at "Bang Na Station" Exit 1. From there, it is just a short walk to the skywalk leading directly to the Welcome Hall.

Address: 88 Bangna-Trad Road (Km.1), Bangna, Bangkok 10260, Thailand, www.bitec.co.th

Registration fees

Full delegate from breweries, bottlers, soft drink/juice/ beverage industry:

Early booking (until 22 May): USD 100 / THB 3,000
from 23 May 2019: USD 120 / THB 4,150

Full delegate from the supply industry, consultants and others:

Early booking (until 22 May): USD 300 / THB 9,900
from 23 May 2019: USD 350 / THB 12,100

Light lunch and refreshments during the intervals, the technical visit on Sunday, the evening event on Monday and the farewell party on Tuesday are included in the fee. Hotel accommodation is not included.

Contact us

VLB Berlin (Germany)
Mr Olaf Hendel, hendel@vlb-berlin.org

Thailand Beer Industry Guild (TBIG)
Ms Chonlada Manakul, tbigh07@gmail.com

Information & Registration:

www.brewingconference.com



PROGRAM

SUNDAY, 9 JUNE 2019

6:00	Registration for the technical visit at Suvarnabhumi Airport (BKK), Check-in area
7:40 / 8:15	Departure flights BKK -> PNH: 7:40 Thai Smile / 8:15 Bangkok Airways
8:15 / 9:30	Arrival at PNH, Bus transfer to Khmer Beverages
10:30	Technical visit: Khmer Beverages, Phnom Penh, Cambodia <i>(incl. Bus transfer & lunch)</i>
16:00 / 19:25	Departure flights PNH -> BKK: 16:00 Thai Smile / 19:25 Bangkok Airways
17:05 / 20:40	Arrival at BKK: 17:05 Thai Smile / 20:40 Bangkok Airways

MONDAY, 10 JUNE, 2019

from 8:00 Registration

OPENING SESSION

Moderator	<i>Ms. Chonlada Manakul</i> <i>(Thailand Beer Industry Guild – TBIG)</i>
9:30	Welcome & Introduction <i>Mr. Isara Khaola-iead</i> <i>(Boon Rawd Brewery, Thailand) /</i> <i>Dr. Josef Fontaine (VLB Berlin)</i>
9:45	What's Brewing in Southeast Asia? – Beer and beverage trends and opportunities <i>Mr. Jarred Neubronner</i> <i>(Euromonitor International)</i> Southeast Asia has a vibrant beer drinking culture, with Vietnam and Thailand having the highest per capita beer volume consumption in the region. Rising disposable income and increased taste sophistication among millennials is driving beer trends focused on premiumisation such as craft beer, and a blurring of lines between beer and other beverages. Euromonitor examines the latest trends, drivers, disruptors and opportunities for the beer industry in Southeast Asia moving forward.

SESSION 1: RAW MATERIALS – CHALLENGES IN THE SUPPLY CHAIN OF MALT

Moderator *Mr. Weerachai Chaiyamong (ThaiBev Group)*

10:30 **Prospects and challenges for the supply of malt from Europe to South East Asia**

Mr. David Griggs (Crisp Malt, UK)

The European (EU) malting industry accounts for over 60% of the world's global malt trade. Important destinations for European malt in South East Asia are represented by Thailand, Vietnam, the Philippines, Taiwan, Singapore and Malaysia. Barley value chain, location of malting facilities and logistical factors benefit European malt exporters. This presentation explores these benefits and discusses challenges ahead.

10:50 **The evolution of Australian malt supply – Meeting future challenges and opportunities**

Mr. Paul Rigoni

(Barrett Burston Malting Co, Australia)

Historically, barley production has been an important part of Australia's agricultural output. Australia's barley growers, exporters and maltsters have been well supported by a dynamic barley breeding industry that, over time, has transitioned from publicly funded, government operated programs to essentially, privately-run breeding programs. The introduction of overseas bred varieties has further enhanced the diversity of barley varieties grown in Australia. Australian malting barley exporters and processors have been well placed to take advantage of the opportunities provided by the growth in beer production in a number of Asian markets. The global upward trend in craft beer production has provided additional opportunities for many malt producers. However, evidence suggests that the impact of climate change is posing a challenge to agricultural productivity in Australia. Being able to adapt to these climatic changes is key to a sustainable barley industry in Australia.

11:10 **Discussion**

11:20 **Quality parameters of rice used for adjunct brewing**

Mr. Pongsawadi Phanomai

(Boon Rawd Brewery, Thailand)

Rice is a common raw material in the brewing industry used as an adjunct to optimise brewing ingredient costs but also to create a distinctive flavour in the final product. In many cases it is applied in combination with barley malt. Having a complex system of malt specifications in place to define malt quality there is close to none rice specific quality control system established in the market. In Thailand being one of the biggest rice producing countries the rice standard is set by the ministry of commerce and the ministry for agriculture classifying the rice standard in different terms, which makes it very difficult to use the existing regulations for brewing.

With our brewing process implemented in all breweries a decoction mash with 100% rice must be fully gelatinised in the first place so that saccharification of the rice mash and the later blend of rice and malt mash will be no issue at any time. Unfortunately from time to time over foaming in the adjunct cooker resulting in non iodine normal worts and also leading to problems with the fermentability of the wort could be observed.

As a consequence of that we decided to work on the development of white rice brewing specifications. A high amylose content, low pasting temperatures, short storage time of the rice and fresh milling before mashing-in are some of the parameters which have been elucidated.

Methods like color rapid test TC Lab and spectrometer from CIE have been used to identify the amylose content and a Viscosity Analyzer (RVA) has been applied to control relevant pasting temperatures.

11:50 **Lunch break**

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SESSION 2: NEW BREWING TECHNOLOGIES – DISRUPTION OF TRADITIONAL METHODS?

Moderator *Dr. Fritz Briem (Boon Rawd Brewery)*

13:00 Innovation trends in brewing technology – Current status and outlook

Mr. Mick Holewa (VLB Berlin)

Technological trends and developments in high gravity as well as non-alcoholic beer brewing are highlighted. Modern yeast breeding with specific technological targets or looking for special flavour profiles will be elucidated. Furthermore, an outlook on recirculated and continuous fermentation procedures is given. Some more general trends, e. g. full bottle inspecting, are introduced shortly.

13:30 Digitalization in the brewing industry: Open IoT & collaboration platform "Share2Act"

Mr. Mustafa Scharifi (Krones)

The mobile internet and digitalization have changed our private lives dramatically. Never before has it been easier to target information and interact with people all around the world. At home we do not think twice about using such opportunities to structure our free time more efficiently, but in our jobs – i.e. where time is literally money – a lot still remains unchanged. In industrial environments we still click our way through confusing folder structures, flick through dust-covered handbooks and phone around from one contact person to the next. And when the working day comes to a close, we take our job-relevant knowledge home with us. It remains stored away in our own heads – out of reach of our colleagues. As a consequence, the goal of every brewery to facilitate communication in the everyday workplace environment and thus to reduce the exchange of information faster and user-friendlier remains unaccomplished. It is high time to make a change – with Share2Act!

What is Share2Act? Share2Act connects employees, machines and IT systems and is therefore the central and open platform for applications and analytics.

14:00 Practical results of the revolutionary brewhouse OMNIUM – What's the use for brewers?

Mr. Konstantin Ziller (Ziemann Holvrieka)

Experiences from industrial plants to compare different lautering solutions (lauter tun, mash filter, Nessie by ZIEMANN) in terms of process time, fermentation parameters and influence on the final product quality.

Make the most of your existing equipment and increase your production capacity by using the innovative mash separation technology as a retrofit solution with low space requirements and a smart treatment of wort fractions with different characteristics. Reach a new level with a higher flexibility regarding batch size, use of various raw materials as well as the possibility to create new beer varieties and to optimize process procedures.

14:30 First experience of the 'Brewery 4.0' – The internet of things concept applied in an operational beer filtration unit

Mr. Rob Huttenhuis (Pentair)

Process manufacturers, like the brewer of today, face constant pressure to improve operational performance. Boosting efficiency and productivity is commercially interesting to do, thereby outperforming market rivals. "Internet of Things" technology enables the brewer the ability to collect data from sensors and devices that can be combined to create intelligence, leading to benefits in maintenance, operational costs and product quality. In this presentation it will be shown how Internet of Things is applied in a Beer Membrane Filter system of a brewery. Questions and challenges are popping up which must be answered and tackled, like which data are needed from the process, security, the possibility to measure data on a real time basis and how to present these data to operators, supervisors and managers. The Beer Membrane Filter system is shown as a worked out example and experiences from first commercial systems are evaluated.

15:00 *Coffee break*

15:30 Brewery 4.0 – A transformational journey towards the brewery of the future

Mr. Roland Schlenker (GEA Brewery Systems)

The Brewery 4.0 vision combines today's state-of-the-art brewery solutions with innovative new technologies to allow the switch from batch to continuous brewing for mainstream brands. A new philosophy and software tools for supply chain control, lean manufacturing and just-in-time production will reduce idle stocks and allow brewers to produce only what their end users need. Informatics systems will exploit big data to optimize plant operation, reduce down time and predict trends.

We believe Brewery 4.0 represents a paradigm shift that will empower our customers to improve capacity and productivity, react swiftly to ever-changing market demands, and achieve operating efficiency, sustainability and environmental goals.

16:00 Active dry yeast: A viable E2U™ solution and implementation tips

Mr. Michael Oberdieck (Fermentis)

ADY is a widely known and used solution for beer production. The first Ale ADY was produced in 1990 and the first Lager ADY was successfully produced in 1998. Since then, apart from the continuous improvement of this technical solution, the use of ADY has been studied at International Research Institutes and Universities worldwide.

It is now widely recognized as a reliable technology of choice; offering numerous advantages and great amount of flexibility and options related to technical and sensorial characteristics and applications; and applicable to the development of main stream brands as well as specialties.

The purpose of the presentation is to "demystify" ADY and to highlight some of its recently identified properties with results provided by internationally recognized laboratories.

The lecture will first explain what is active dry yeast, how it is produced, what are the quality standards, how it should be used and it will also highlight advantages of this product form.

Second, it will highlight more specifically the impact of the implementation conditions of ADY on the performance and characteristics of ADY both in terms of performance and flavor components.

16:30 *End of lecture program*

SUPPORTING PROGRAM

17:00 Departure of busses at BITEC

18:00 Evening Event: Welcome party at Lhong 1919, Bangkok

Mid-nineteenth century Sino-Siamese port located on the bank of the Chao Phraya river

22:00 **End**



TUESDAY, 11 JUNE 2019

SESSION 3: BEER DIVERSITY BY USE OF HOPS AND REDISCOVERED HOPPING METHODS

Moderator *Dr. Lumprai Srithamma (Thailand Beer Industry Guild – TBIG / Hop Beer House Korat)*

9:00 **Thoughts on hop aroma in beer**

Mr. Alexander Feiner (Hopsteiner)

Hop aroma in beer is influenced by multiple parameters. Since hops contain a heterogeneous mix of volatile compounds, the usage of different hop varieties or the application of various hop products at different time points during the brewing process has major impacts. Additionally, the spicy or fruity character of hops is essential to achieve a certain flavor in specific beer styles. This presentation gives insight into the sustainable breeding of aroma influencing hop varieties as well as the application of different products or relevant hop components and their sensory impact and additional benefits in hop aromatic beers.

9:30 **Flavor changes in strongly hopped beers**

Mr. Christian Schubert (VLB Berlin)

The current market situation shows a trend towards hoppy beers with a strong focus on the consistency of their quality, especially flavor stability. To date, various studies have investigated flavor stability in bottom fermented beers whereas only little research has been done on hoppy top fermented beers.

In order to investigate the flavor chemistry of hoppy beer, eleven German craft beers were selected by a Design of Experiment (DoE) approach using basic beer parameters (ABV, IBU, and Color) as input variables. The beers were subjected to a six month storage trial at 4 °C and 20 °C as well as a forced ageing. Chemical changes were tracked by application of multiple targeted instrumental analysis on eight separate occasions and complemented with sensory evaluation.

An overview on the current state of research and the beer "stability" will be given, as well results of this project will be shown.

10:00 **Beer diversification by efficient dry hopping**

Mr. Georg Drexler (Barth-Haas Group)

Meanwhile, dry hopping is a kind of „standard process“ (some would say „necessary“) for many brewers that have hoppy beers styles in their portfolio. Unfortunately, the dry hopping process mostly is connected with low utilization rates and significant beer losses, and therefore additional costs. What are the efficiencies during dry hopping, and how can you improve the (hop) utilization by the usage of special equipment and hopping techniques? What is the role of Thiols as a small group in the total hop oil is? And what are the possibilities with the application of innovative hop products? An overview of opportunities to enhance dry hopping!

10:30 Coffee break

SESSION 4: OPTIMIZING BREWING PROCESSES

Moderator *Mr. Sorrasit Chatwatthanakun (Boon Rawd Brewery)*

11:15 **Effect of mash and wort acidification versus yeast pitching rate as parameters to optimize fermentability of adjunct worts**

Mr. Songsak Hengprathanee (Boon Rawd Brewery)

Rice is a local raw material, can be used as adjunct in brewing process to enhance the unique flavour expected by the Thai consumer. Since the rice therefore content high carbohydrates, however lower proteins, vitamins and other substances, essential nutrients for the yeast than malt some of the brewing parameters need to be optimized.

In this presentation, High gravity beer brewed with rice is optimized by study the effect of wort acidification to mash and wort, and yeast pitching rate on the ferment-ability in the beer. The experiment has been separated into 2 parts. Brew house part, comparison between lactic acid addition and no lactic acid addition and Fermentation part, comparison between lower and normal yeast pitching rate. Chemical and sensory analyses have been used to compare the beers of both trial set ups.

11:45 **Non-alcohol beer technology: A new quality beer based product for a big range of customers**

Mr. Juan Jurado (Alfa Laval)

Non-alcoholic or low alcohol beer products have been present in different forms in the last 30 years. However, it is not until recent years that quality 0.0 beers, those made by stripping alcohol from dedicated final beer recipes to less than 0.05% ABV, have been successful.

There are clear signs that beer de-alcoholization will play an important role in upcoming beverage market trends. A high level of process knowhow and technical support is needed to help traditional brewers adapt to the new challenges imposed by this growing demand. The downstream adjustment of taste, flavours and aromas after alcohol has been removed requires experience and absolute confidence. Today, customers are increasingly health and taste conscious. 0.0 beer products correspond with this demand, endorsing responsible drinking and good social image. This also favours the beer industry by increasing profits, lowering taxes and carving new market segments. This presentation will review key aspects to consider when producing quality non-alcohol beer that meets market demand.

12:15 **Digitalizing cleaning in the brewery: Infrastructure required for actionable insights**

Mr. Wong Hwee Jiau (Ecolab)

Beyond data collection, digital transformation empowers brewery to achieve exceptional product quality, while ensuring resources are being used in an efficient manner. The presentation laid out infrastructure required to achieve the digital advantage, with case study sharing on outcome delivery.

12:45 Lunch Break



SESSION 5: FILLING & PACKAGING – CHALLENGES AND OPTIONS

Moderator *Mr. Vivorn Siriphong (Thai Asia Pacific Brewery Co.)*

14:00 Next Generation Intelligent Beer Clarification

Mr. Hau Phuc Huynh (Pall)

Changing requirements in the brewing industry have encouraged brewers to rethink their production technologies. Environmental aspects, consumer protection, water shortages, variations in raw material quality, labor costs or an increasing sort-variety are all factors influencing future decisions into new installations. The presentation will introduce a modern beer clarification, a green solution that minimized waste, water and utility consumption while increasing brewery production efficiency. We understand that a reliable filtration is a key factor for product quality and commercial dependability to brewing industry.

14:30 Combining operational excellence with disruptive packaging diversification

Mr. Olivier Goffin (Sidel)

Sometime operations KPIs, based on efficiency, up time, reliability, OPEX reduction look conflictual with Marketing KPIs based on growth, premi-umisation, diversification, product and packaging disruption. But when companies are able to combine both... then they become invincible. This session will show examples of how these two apparently distant set of objectives can be combined into winning formula. Disrupt, Digital, Diversify. Done!

15:00 How artificial intelligence helps overcome the challenges in the D-ERA

Mr. Hans Kolovitsch (Heuft)

Digitalization offers enormous potential for disruptive technologies for the secure and efficient further development of brands and their diversification. In particular the instruction of the operating personnel by means of digital language assistants, as developed by Heuft since 2014, changes the workplace in the filling plant fundamentally. Based on artificial intelligence the assistant will react preventively in future in order to ensure safety and efficiency during filling. This is done as automatically as possible but also in dialogue with the operating personnel if they have to intervene.

With increasing individuality and more and more products, artificial intelligence also offers enormous potential for commissioning new brands in terms of time to market with a high level of product safety. Here too Heuft systems with the aid of machine learning have been offering possibilities for individual and safe teach-in of fault objects for years. In our presentation we will inform you about our visions, ideas and the current state of the art at Heuft.

15:30 *Coffee break*

SESSION 6: DEVELOPING AND MAINTAINING BEER QUALITY ON THE WAY TO THE CUSTOMER

Moderator *Mr. Narathip Thonggok (Boon Rawd Brewery)*

16:00 High quality beer dispense in Southeast Asia

Mr. Thomas Hutschenreuter (Micro Matic)

The draught beer share in Southeast Asia is -besides some exceptions- still on a low level. This is also caused by the fact that beer lovers and new customers have been often disappointed by the poor quality of the offered drink. The presentation will uncover the most critical technical aspects of a dispensing system when used in tropical environment. Especially unfiltered craft beers deserve solutions that can guarantee enjoyment until the keg is finished. Besides methods to raise draught beer know-how of the technical service people, the sales team and the bar staff will be discussed.

16:30 New beer styles: The concept and importance of drinkability and influence factors

Mr. Mick Holewa (VLB Berlin)

Talking about new beer styles, a lot of these are developed by craft brewers. The drinkability of these, quite often very special, strong or sour beers can easily be regarded as a matter of discussion. Whilst traditional brewmasters tend to question the drinkability of most craft beers, the crafties themselves seem to consider the expression "drinkability" as a lame excuse for boring, watery lager beers without character. This contribution is trying to add some reasonable information to this discussion by explaining the sensory, cognitive, post-ingestive and post-absorptive effects of beer.

17:00 One Way Keg: Disrupting draft beer delivery

Mr. Andy Brewer (Petainer)

In this lecture Andy Brewer discusses the latest innovation in Draught products "The One-way keg" and whether it works for your Beer market. In the lecture he covers various designs of One-way kegs, what they are made from and a number of other aspects including what are their advantages and disadvantages, possible saving in utilities and whether or not they reduce your carbon footprint. Other areas covered include how the kegs are filled and recycled. The subject of the lecture is "One Way Keg: Disrupting draft beer delivery" and it should give enough information for you to make the conclusion whether One-way kegs will work in your market.

17:30 Digitalization and trends in beer logistics: Current status and outlook

Mr. Dr. Josef Fontaine (VLB Berlin)

Optimization of efficiency, speed, quality and timing have always been important in beverage production and logistics. Today many new technologies are available helping automation of processes and digitalization of information. Big data, Internet of Things, mobile devices, and many more enabling technologies can also be a huge chance for the beer industry. In this overview we take a look at the main challenges regarding digital transformation in logistics and the digital beverage supply chain of the future.

18:00 Closing remarks

CLOSING

18:30 **Farewell party at the BITEC**

21:00 **End of conference**

Information & Registration:

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TECHNICAL VISIT: KHMER BEVERAGES, PHNOM PENH, CAMBODIA

Sunday, 9 June 2019

6:00	Registration for the technical visit at Suvarnabhumi Airport (BKK), Check-in area
7:40 / 8:15	Departure flights BKK -> PNH: 7:40 Thai Smile / 8:15 Bangkok Airways
8:50 / 9:30	Arrival at Phnom Penh International Airport (PNH) <ul style="list-style-type: none">• Pick-up by busses and transfer to the factory• Welcome by the Khmer Beverages Management• Introduction Khmer Beverages• Welcome address by the Chip Mong Group President• Safety instructions• Lunch• Brewery tour• Press conference• Transportation back to the PNH airport
16:00 / 19:25	Departure flights PNH -> BKK: 16:00 Thai Smile / 19:25 Bangkok Airways
17:05 / 20:40	Arrival at BKK: 17:05 Thai Smile / 20:40 Bangkok Airways Individual return to the hotels

ABOUT KHMER BEVERAGES

Khmer Beverages (KHB), a business unit of Chip Mong, is one of the leading producers of alcoholic and non-alcoholic beverages in Cambodia. The factory uses only the finest ingredients from Europe and is equipped with state-of-the-art technology and machineries from Germany.



Khmer Beverages has been awarded an ISO 9001:2008 Certificate of Quality Management Systems, an ISO 14002:2004 Certificate of Environmental Management Systems, a Brewery Award from the United Kingdom and a European Beer Star Award from Germany. For their products they have won many Monde Selection Awards for their highest quality both in Gold and Grand Gold categories.

The factory has undergone its third major expansion in 2017 when it increased its production capacity to 7 million hectoliter per year and developed new products such as Barrley Black extra stout beer, Kudo lager beer, Wurk energy drink, Ize Cola, Ize Lemon and Fruit Punch, Joop Asian juice, and Cambodia Water, all of which are well-received in Cambodia's market.

About 1000 local and international staff are currently employed full-time at Khmer Beverages with strong commitment to produce the best beer and beverage products for Cambodia and the region and contribute to the constant expansion, growth and success of the company.

Information & Registration:

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The „Brewing Conference Bangkok“ is a joint project of the Thailand Beer Industry Guild (TBIG), Bangkok, Thailand, and the VLB Berlin, Germany