



Speaker interview with **Taco van der Maten, ASTM Vice Chairman and Malvern Panalytical.**

He will be sharing the different energy-efficient methods that can be used for refining and petrochemical processes to improve overall operational excellence on 26th October.

1. At Malvern Panalytical, what is some of the work you are doing that will interest downstream operators? Are there any new findings which are worthy of mention?

We're constantly trying to find ways to spur greater operational efficiency and product quality. This year, our R & D team has developed a solution that helps refineries to save as much as €250,000 annually. This is by extending their catalysts' lifespan through in-line monitoring of catalyst killers. I will share more applications during my technical talk about this new product launch – the Epsilon Xflow for in-line elemental analysis. With the merger of [Malvern](#) and [Panalytical](#), both materials characterization companies, we are able to offer a more holistic solution to our clients. Our solutions range from close loop elemental analysis to in-line particle size analysis, granting more extensive applications.

We will feature products tailored for downstream companies including the [Epsilon Xflow](#) and [Insitec](#). With the Epsilon Xflow, you can analyse elements during your production processes which extends to detecting costly catalyst killers such as like S, Fe, Ni or V. For Insitec, it analyses particles including dry powders and hot sticky slurries for greater control of industrial processes.

2. What are the latest technology adoptions by downstream operators? Are there any success stories that other operators can learn from?

Apart from looking at products for topline revenue, many process engineers are looking at improving their crack margins from plant operations. Earlier I talked about preventing the replacement of expensive catalysts, I also see many plants focusing on their maintenance costs and downtime due to maintenance. Did you know that plants can spend as much as 36% of their maintenance costs due to corrossions from toxic elements like Sulfur and Chlorine? That is why international standards like ASTM D4924 are in place to help plants be more efficient and lucrative by monitoring such toxic elements.

For such routine elemental analysis, it is beneficial to choose simple push button analytical solutions preferably with low running costs. Traditionally plants leverage on wavelength dispersive XRF (WDXRF) for light element analysis like Sulfur and Chlorine. While results are good and repeatable, WDXRF spectrometers are large and confined to laboratories. That means a transport time gap between the plant and laboratory. Energy dispersive XRF is the new technology to watch. Did you know that its small

and portable footprint allows you to analyse low ppm levels of chlorine in the presence of high concentrations of sulphur?

On the topic of process efficiency, a FCC cat client recently incorporated in-line particle size analysis at the FCC production and achieved %-level reduction of cat-fines. By monitoring the particle sizes, they were able to reduce the < 2 µm fraction, which we know causes problems for plant operations and reduces efficiency. So if we analyse, there are many ways to improve your process and hence margins and product.

3. What are your views on Asia's downstream industries rate of digitalisation as compared to counterparts in other regions i.e. America, Europe and the Middle East markets?

I do see companies like ExxonMobil in Singapore which leveraged on technology such as the Global Energy Management System to improve their energy efficiency by as much as 17%¹ at their refinery in 2016. That is indeed a significant impact not only to their bottomline but also the environment. With the levels of investment by the local governments, I would say that Asia is definitely the region to watch in terms of efficiency, sustainability and growth.

As globally many initiatives emerge using digitalization and energy operators get more distributed, it should be a big drive for the Asian Downstream Industries to adopt new services and business models. The age of digitalization cannot be fast enough if Asia wants to keep and increase its position. Malvern Panalytical is able to support these changing distributed business models by its leading global service and support network.

4. What's the greatest impact IoT, data analytics and AI will have on the industry? What lies ahead of operators and how will they adapt?

In 2016, BP used big data analytics technology to analyse data from wells in the UK North Sea. Analysis was completed in mere seconds compared to what a geologist would typically take – one month². Now imagine if this swift data analysis can be automated to form a predictive mechanism for companies. Chemical plants will be able to objectively determine when they need to conduct preventive maintenance given the volume and type of corrosive elements at in-bound QC.

AI still needs data and information and at Malvern Panalytical, we make sure we play in this area while adding value to the AI part. For example we combine best-in-class analytical results with a so-called virtual-analyst which proposes the best given analytical condition for the material at hand. Combining these solutions in an AI network in your company, allows you to adapt faster to the changing feeds and thus increasing your margin.

As what Alibaba founder, Jack Ma said in a recent CNBC interview with, the age of digitalisation and AI is here to stay. We will fall behind if we do not embrace or adapt. Automation, data analytics do not always come with a small price tag. Same applies to being a corporately social responsible company producing sustainable and safe products for consumers. Think about it this way, what is the opportunity

cost if your company did not embrace these paths? Will your company be able to sustain the next 100 years in history? It takes gumption to try, fail and improve than not trying at all.

5. What will be the highlight of your presentation at Asian Downstream Summit?

As ASTM International's Vice Chairman, I get the opportunity to discuss the whole energy value-chain with multi-national companies from the petrol, chemicals and polymer industries. These discussions lead to insights about a lot processes, standards and regulations. I hope to be able to shed light on what keeps such companies awake at night in designing and manufacturing better products while staying competitive. I will be able to share solutions developed based on these discussions which companies can consider in terms of operation reliability and asset management. As long as people start to think about my highlights when back at the office or at home I am already satisfied.

Taco van der Maten, ASTM Vice Chairman and Malvern Panalytical's Marketing Manager for Petrol, Chemicals and Polymers is an invited speaker at the Downstream Asian Summit. Pick up tips on improving your plant's processes and products during his talks. Taco presents at the seminar, segment 2.4 on **Thursday, 26th October, 12.10pm** on the topic "ASTM integrated asset protection, process optimization and regulations compliance ". During his public technical talk on **Wednesday, 25th October, 1.25pm**, learn about real-time elemental analysis with Malvern Panalytical's newest in-line monitoring analyzer –[Epsilon Xflow](#).

Should you wish to engage him in further conversation, talk to Taco at exhibition **booth #9**. Alternatively you can email at taco.van.der.maten@panalytical.com

1. Business Times, 2016 <http://www.businesstimes.com.sg/hub/energy-efficiency-national-partnership/exxonmobil-focuses-on-continuous-improvements>
2. BP, 2016, <http://www.bp.com/en/global/corporate/bp-magazine/innovations/8-technology-breakthroughs-that-may-change-the-energy-landscape.html>