

Special Supplement with MDBC magazine  $4^{th}$  edition 2017





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#### HER EXCELLENCY KARIN MÖSSENLECHNER NETHERLANDS AMBASSADOR & CHIEF JUDGE - MISA '17 26 October 2017

Dear members and friends of MDBC,

It was a great pleasure to once again participate in the MDBC Awards Ceremony. The theme of this year was not only sustainability, as in past years, but innovation and sustainability.

The evolution of the MDBC Sustainability Awards into the MDBC Innovation & Sustainability Awards, or of the MSA in the MISA, is a good and welcome decision in my view. In our knowledge based global economy, innovation is the engine of economic growth and a necessary condition for a sustainable future. Innovation and sustainability go hand in hand.

The younger generation puts much emphasis on sustainability. They are concerned about the future of the planet, their own future. The guest of honour and keynote speaker at the MISA Awards Ceremony, Minister of Youth Affairs and Sports, YB Brig. Jen. Khairy Jamaluddin spoke about this as well.

In the years to come we will have to deal with the effects of climate change, rising global demands for food and water, and growing competition for limited natural resources. The Population Research Institute just projected that the global population will consist of 8.3 billion people by 2030, and according to them we will need 50% more energy, 40% more water, and 35% more food. These challenges can only be met through innovation.

Fortunately, innovation is happening at a higher speed than ever before; With initiatives coming from governments, research institutions, multinational companies, SMEs, start-ups, and citizens alike. Markets are changing faster than ever, the public demand for climate neutral, zero footprint products is rapidly on the rise, and thus there is an enormous need for new knowledge, new technology, and creative solutions.

As a flood prone country lying one third below sea level, The Netherlands has always had to be innovative to survive and thrive. Thanks to our geography, we now have a lot of expertise in the water sector, and are eager to cooperate with other countries, including Malaysia. Our demography also forced us to be innovative. The Netherlands is one of the most densely populated and most urbanized countries in the world. In order to create a sustainable living environment for all of our people, we had to be innovative and come up with creative solutions.

We thus managed to turn disadvantages into advantages. And it paid off: The Netherlands ranked 3rd in the 2017 Global Innovation Index of the World Intellectual Property Organization, and 4th in the Global Competitiveness Index of the World Economic Forum, first of the European Union countries. Malaysia does very well too, placing 23rd in the Global Competitiveness Index, as best upcoming market in Asia. In Malaysia there is growing awareness of the need to invest in innovation, R&D, and green technology. So there is much potential for cooperation between our two countries.

With the MISA Awards, the Malaysian Dutch Business Council has provided the local Dutch and Malaysian business communities with an excellent platform for sharing best practices in the field of innovation and sustainability. As chief judge I had the heavy duty, together with my fellow judges, of deciding the winners in the categories Most Innovative Start-Up, Best Service Innovation, and Best Product Innovation. It was extremely difficult to reach a decision, given the wide range of ideas, contributions, and the high quality of the candidates. All of the eleven shortlisted candidates presented highly innovative solutions to contemporary challenges.

In the end, the most technologically innovative, (potentially) impactful, and practicable proposals came out as the winners in each of the three categories. The three prize winners all put innovation central in their business models and show that innovation can be profitable. "Fortunately, innovation is happening at an higher speed than ever before... Markets are changing faster than ever, the public demand for climate neutral, zero footprint products is rapidly on the rise, and thus there is an enormous need for new knowledge, new technology, and creative solutions."

I would like to congratulate GROM, for winning the Most Innovative Start-Up award with their innovative app helping doctors prescribe and order custom insoles for their patients, providing services in far off areas. Patients don't have to travel long distances any more to get specialist assistance. Congratulations also to &samhoud for winning the Best Service Innovation award for their innovative use of Virtual Reality and Serious Gaming techniques in their training programmes. The prize for the Best Product Innovation was awarded to Sime Darby Plantation for developing the Genome Select Oil Palm. This enables them to produce at least 15% more oil without having to increase the planted hectares, in line with their no deforestation policy.

Finally, Akzo Nobel Paints (Malaysia) deservedly took home the Audience Award after a passionate and convincing elevator pitch about their Dulux Weathershield Keep Cool exterior wall paint. This paint reflects infra-red heat, resulting in cooler temperatures, less usage of energy (airconditioners), and thus results in a lower carbon footprint.

All of the winners, and all of the other shortlisted candidates, inspired us to work on a more innovative, sustainable future. A future that starts today.

Let me end by commending MDBC on their important work for the Malaysian-Dutch business community in general, and in particular on the successful organization of the MISA Awards Ceremony, which hopefully will get a continuation next year. Already looking forward to the next edition!

Karin Mössenlechner

Ambassador of the Kingdom of the Netherlands to Malaysia

































#### THE MALAYSIAN DUTCH BUSINESS COUNCIL INNOVATION & SUSTAIN-ABILITY AWARDS 2017

A cornerstone of the MDBC event calender, the MDBC Innovation & Sustainability Awards (MISA), evolved from the previous MDBC Sustainability Awards, which ran for 5 successful editions. A natural progression in our own journey of understanding sustainability, MISA allows us to also reach out to a larger segment and continue our mission for this awards program to share best practices and elevate the understanding of Innovation & Sustainbility.

Successful and sustainable innovation is about persisting when the going gets tough, and rethinking your business in the face of disruption. Together with the Embassy of the Kingdom of the Netherlands, we wanted to stimulate and encourage the understanding of role that innovation and sustainability plays in the corporate world. As with previous editions of the awards program, MDBC ensures that the new award categories are timely and of particular relevance to furthering the understanding of Innovation & Sustainability.

There were three categories for competition this year: 1) Best Service Innovation; 2) Best Product Innovation; and 3) Most Innovative Start - Up. These categories allowed a wide range of companies the opportunity to participate, and with all categories open to ALL companies (MDBC members and non - members alike) this year, MISA saw a record number of participants entering the competition.

For 'Best Service Innovation', the winner must have a service innovation that is new or has significantly improved characteristics. The innovation adds user value, enables entry into adjacent markets, or creates new markets.

For 'Best Product Innovation', the winner must have a product innovation that is new or has significantly improved characteristics. The innovation adds user - value, enables entry into adjacent markets, or creates new markets.

For 'Most Innovative Start - Up', the winner has / is implementing an innovative service, product, or business concept. Competitors were allowed to apply for this award if their company has existed for less than 3 years, and has less than 10 employees; the organization must also be a registered business entity.

Also introduced this year was a special 'Audience Award'. After the presentations at the day program, each shortlisted nominee was invited to deliver a one minute elevator pitch in order to promote their project or start - up during the MISA Awards Ceremony & Dinner. The audience at the Dinner was then allowed to decide which nominee deserved the win by live vote. This interactive and informative part of the evening program not only allowed the dinner guests to be more involved with the Awards program as a whole, it helped bridge the Day and Evening programs into a more cohesive whole.



JUDGES

## **MISA '17 JUDGES**

## We are very proud to present you with the MISA



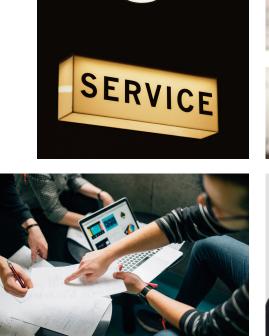
## **CHIEF JUDGE**



#### HER EXCELLENCY KARIN MÖSSENLECHNER Ambassador, Embassy of the Kingdom of

the Netherlands The Ambassador started her diplomatic career in 1997. She has held postings in The Hague, New Delhi, and Berne. From 2010 - 2011, she was Assistant Director for European Integration at the Ministry of Foreign Affairs in The Hague. She then

## **BEST SERVICE INNOVATION**







#### **IR. AHMAD HADRI HARIS**

General Manager - Government Relations, Shell Malaysia

Ir. Hadri's most notable national contributions were the Malaysia's Green Technology Policy and Malaysia's Renewable Energy Policy and Action Plan. Ir. Hadri is widely recognised for his success in transforming solar and renewable energy industries in Malaysia and was the architect of the Malaysian feed-in tariff.

#### **BIRUNTHA MOORUTHI (BIRU)**

Vice President - Commercialisation Specialist / Head of IP & Commercialisation, **PlaTCOM Ventures** 

Biru is an IP management and technology commercialisation specialist with experience in technology transfer and commercialisation domains. She is also a registered patent, trademark, and industrial design agent with the MyIPO.

2017 panel of judges. As always, the panel of judges consists of highly regarded, independent expert individuals.



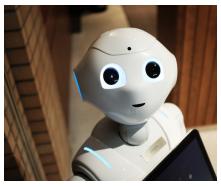
## **BEST PRODUCT INNOVATION**

#### SUSAN VAN BOXTEL

Advisor for Innovation, Technology & Science, Embassy of the Kingdom of the Netherlands - Singapore

Susan van Boxtel heads the regional team of the Holland Innovation Network, reporting to the Netherlands Enterprise Agency (RV0) and the Dutch Ministry of Economic Affairs. She is a biomedical scientist and worked in the pharmaceutical industry for 10 years.







## **MOST INNOVATIVE START - UP**

**KEES SLINGERLAND** Business Director, AMS Institute

Kees was Director General of the Environmental Sciences Group (ESG), Wageningen University and Research. He has also worked as an Advisor for the Dutch Ministry of Agriculture, Nature, and Food Quality (LNV), as well as Project Manager for Nehem Intl., and Managing Director of ARCADIS Netherlands.

CHUA HSUI LIN

Head of Advisory, InvestKL

Hsui Lin has more than 15 years of experience mainly in corporate recovery, corporate advisory, and strategic planning and management. Her functional expertise includes business diagnostic review, process improvement, financing, financial modeling, R&D, strategic business development, risk management, and CSR among others.











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Low Kuan Shiuan (Brand Manager, Akzo Nobel Paints (Malaysia)), receiving the MISA 2017 Audience Award from VIP Guest YB Brig. Jen. Khairy Jamaluddin, Chief Judge Ambassador Mössenlechner, and MDBC Director Remco Koster.

The winner of the inaugural MDBC Innovation & Sustainability Awards (MISA) 2017 Audience Award was Akzo Nobel Paints (Malaysia). With a clear and concise elevator pitch to the evening audience by Low Kuan Shiuan, on their MISA submission, the project (and delivery) impressed the dinner guests enough to win the Award.

A part of AkzoNobel, a leading global paints and coatings company and major producer of specialty chemicals, the company manages a number of brands including well known Dulux.

Dulux Weathershield, Akzo Nobel Paints' Premium Acrylic Exterior which offers all weather protection, was submitted for consideration in the 'Best Product Innovation' category, Dulux Weathershield comes with "KeepCool Technology". It brings the benefit of cooler surface temperatures compared to conventional exterior paints (up to 5°C difference), resulting in cooler interior temperatures. It allows consumers to use less air conditioning which also results in a lower electricity bill.

Dulux Weathershield (which also carries the Singapore Green Label Council certification) also offers good alkali resistance which helps keep the paint from chalking and peeling.

Taking into account the fact that exterior walls are subjected to harsher conditions, and yet are required to last longer as the hassle and cost of repainting are higher compared to interior walls, Dulux Weathershield also contains UV protection technology to help prevent color fading from UV light exposure.

It also has "Stay Clean Technology" which protects the wall against dirt, ensuring that it stays cleaner longer. It also protects the exterior wall from fungus and algae infestation to ensure the wall stays aesthetically beautiful.



This all has a big impact when taking into consideration that the air temperature of an urbanized area can be as much as 12 °C hotter than in the suburbs. This of course causes higher consumption of air conditioning which in turn, results in a higher electricity bill, air pollution from excess heat, and increased energy production, all leading to a bigger impact on global warming.

KeepCool Technology reduces surface temperatures of walls up to 5 °C which results in a cooler interior temperature. It is based on Total Solar Reflectance (TSR), which is defined as the reflection of solar radiation by the wall surface, or the absorption of solar radiation by a surface.

The lower the TSR value, the higher absorption of solar radiation, resulting in more heat being generated and higher temperatures being transferred into the home. This is the reason people general choose white / light colors for exterior walls as white has a higher TSR which leads to lower interior temperatures.

With KeepCool Technology, we can have dark colors with cooler interior temperatures, reducing high consumption of air conditioning and the follow on effects on pollution, energy consumption, and global warming.





## CREATING NEW HORIZONS IN OFFSHORE ENERGY

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### SHORTLISTED COMPANIES



MOST INNOVATIVE START UP

## THE SHORTLIST



## **APPYKOINS**

APPYKOINS Sdn. Bhd. developed a unique innovative platform to help travelers and users around the world make use of their leftover (foreign) currency (bills and coins). Globally scalable, WorldKoins does not require heavy investment in machines, requires very little maintenance, and creates a win for all parties involved in the eco system; free to enter, free to exit. The leftover money stays home, travelers get digital eGift cards. Leave your leftover currency with a local partner and get its value on your mobile phone. WorldKoins converts leftover currencies to eGift cards, vouchers, and discount codes to shop online right from your mobile phone. The platform / service includes mobile phone applications (free to download on iOS / Android) and a marketplace with a large selection of eGift cards, vouchers, and discount codes from different brands. The user can locate nearby WorldKoins partners and drop off his / her leftover currencies; transactions are validated immediately and

her leftover currencies; transactions are validated immediately and the user's account is credited. The user can then use their account balance to shop online from a large selection of brands, make a donation, or transfer their balance to PayPal.



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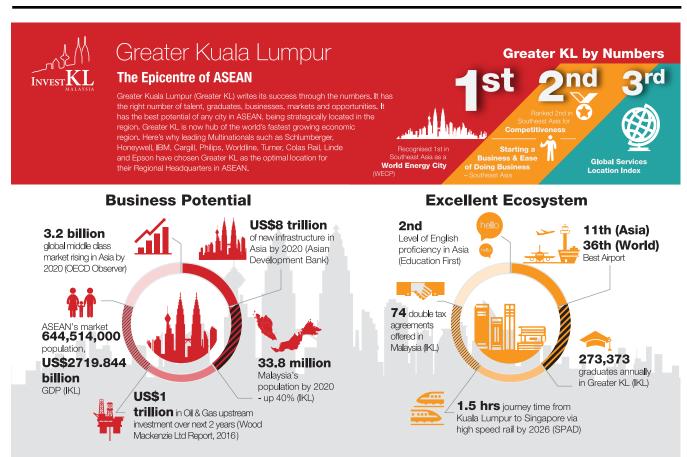
MOST INNOVATIVE START UP (CON'T)

## THE SHORTLIST



KLCSI

The KL Centre for Sustainable Innovation (KLCSI) is a JV between AECOM and Yayasan Wilayah Perseketuan, dedicated to researching and developing new ideas for enhancing the livability and quality of life in the Greater Kuala Lumpur region. We aim to do so by taking green and sustainable solutions, test - bedding them as innovative 'living laboratory' projects across the Klang Valley to demonstrate proof of concept and create commercial opportunities to benefit KL's economy. We have taken four urban challenges: traffic, food waste, urban farming, and ageing populations as our goals to tackle. To reduce traffic in KL, we have proposed an urban cycling scheme involving the use of bike facilities made from former shipping container units. For food waste, we have run a waste recycle program in a public housing estate converting food waste into rich compost. In urban farming, we have designed a rooftop concept farm incorporating hydroponic farming, aquaponics, a herb garden, and a worm farm as well as a rainwater harvesting system. We have also designed an aged care day centre which is based on sustainable design an intergenerational inclusivity for aging populations.



Invest KL Corporation (957672-k) 16th Floor, Menara SSM@Sentral, No.7, Jalan Stesen Sentral 5, KL Sentral, 50623 Kuala Lumpur, Malaysia www.investkl.com

#### SHORTLISTED COMPANIES



**BEST SERVICE INNOVATION** 

## THE SHORTLIST

## AIR LIQUIDE BUSINESS SERVICES

Air Liquide is creating a one of a kind Smart Innovative Operations Centre (SIO) which will centralize, optimize, and allow for remote control over the operation of 18 large production units in the region through the Remote Operations Control Center. Capable of stopping or restarting a site remotely, the center adapts the production level of the plants according to customer demand. Thanks to this center, the workflows of each unit are adapted in real time to the needs of each customer. Air Liquide creates expertise teams based on data analytics to optimize operations:

\* Predictive analytics for maintenance: AL is able to predict major issues weeks before it happens. Through the analysis of big data 24/7 for these sites, AL is developing predictive maintenance for productions ites by identifying the weak signals that precede a malfuction.

\* Energy efficiency: Using historical data, AL is able to set the unit at its best economic performance. Algorithms devised by our engineers are used to fine tune adjustments to optimize energy consumption, leveraging 5 years of data gathered from all sites.

## **LEADWOMEN**

LEAD

LeadWomen has revolutionized board recruiting in Malaysia and has helped increased board diversity. Since LeadWomen was founded, the percentage of women on PLCs increased from 7.7% to 12.6% in June 2017. In 2017 alone, LeadWomen received requests from 21 PLCs to fill several board positions. We have trained 900+ women through our Women Directorship Program. Additionally, we have innovated the way women network by offering networking opportunities that are conductive to women's busy work and home lifestyles. We are enabling women to create the network circles that matter to them in a format that is easiest for them. With the increasing interest in women centric networking opportunities, we recently launched LeadWomen Power Lunches. This series offers women a relaxed and informal opportunity to meet like minded and influential individuals over lunch, which means their networking time does not introduce on work or personal time. In 2018 we are launching the LeadWomen Power App where members will have access to information on networking events and board position openings at their fingertips.





BEST SERVICE INNOVATION (CON'T)

## THE SHORTLIST



### **YTL CORPORATION**

Wessex Water, a subsidiary of YTL Corporation, is one of 10 companies licensed by the UK government regulator Ofwat as a 'regional water and sewerage undertaker' which serves 2.8 million customers across the south west of England.

A major focus in the last ten years has been on the need to reduce nutrient levels. In warm conditions, the high levels of phosphorus and nitrogen (originating from point sources such as sewage treatment works or from diffuse sources such as agricultural runoff) can lead to algal blooms, which in turn deplete oxygen levels and reduce aquatic and marine biodiversity. Wessex Water's Nutrient Management is handled throughout the water cycle, from source to sea and land. Some featured innovations include: working with farmers outside the company's own landholding to protect groundwater; DEMON nitrogen removal at Poole; BioMag; ReedBed; High rate algal ponds for phosphorus removal; catchment based permitting; EnTrade online nutrient trading platform; and food waste digestion co located at a sewage treatment work.



**BEST PRODUCT** 

**INNOVATION** 



THE SHORTLIST



## **AKZO NOBEL PAINTS (MALAYSIA)**

Akzo Nobel Paints Malaysia offers Dulux Weathershield, their Premium Acrylic Exterior which offers all weather protection. It comes with "KeepCool Technology" to help maintain a cooler surface temperature compared to conventional exterior paints (up to 5 °C difference), resulting in cooler internal temperatures. This allows consumers to use less air conditioning equating in a lower electricity bill and in turn, helps to minimize environment impact.

Dulux Weathershield also offers good alkali resistance to prevent the paint from chalking and peeling. We also take into account that external walls must last longer, even with harsher conditions, due to the hassel and cost of repainting in comparison to interior walls. To aid in this, we have UV protection technology to help prevent color facing in UV sunlight. It also has Stay Clean Technology which helps protect the wall against dirt and ensures that the exterior wall stays cleaner for longer. Dulux Weathershield will also protect exterior walls from fungus and algae infestion to ensure that the exterior walls stays aesthetically beautiful.

## **HEINEKEN MALAYSIA**

## HEINEKEN

HEINEKEN Malaysia is the first company to reuse coconut waste mixed with potato starch to make a 6 can ring for their Tiger beer. Tiger beer is the biggest beer brand in Malaysia and is establishing itself with purpose locally and globally. Each year, the burning of discarded coconut shells and husks releases 450,000 tonnes of  $CO^2$ , equivalent to gas emissions for 90,000 cars. Now HEINEKEN Malaysia is upcycling this waste to create sustainable, eco - friendly packaging, reducing their environmental footprint. 87% of consumers mentioned that this initiative improved their perception of the Tiger brand. Consumers would not pay more for the packaging, but they also mentioned that they would buy more Tiger beer to support the cause. HEINEKEN Malaysia sold 4 times the usual amount of Tiger 6 can pack as without any price promotions (60 - 70 units in 3 days compared to an average of 15 units in 3 days). Malaysian consumers are aware of environmental issues but are sometimes hard to mobilize to do more for the planet. With this initiative, all they need to do is continue to drink Tiger beer to help save the environment.





BEST PRODUCT INNOVATION (CON'T)

## THE SHORTLIST

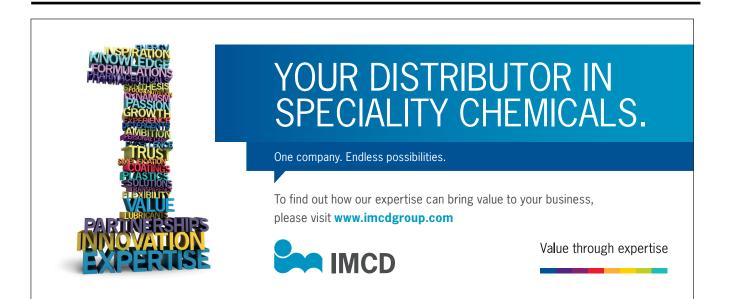


## SBM OFFSHORE

SBM Offshore provides floating production solutions to the offshore energy industry over the full product life cycle. In December 2016, SBM Malaysia implemented a Flare Management Program on the Kikeh FPSO, an SBM asset on lease to Murphy Oil.

The Flare Management Program consists of software tools that provide real time monitoring of the flared hydrocarbon gas volumes (burnt to atmosphere), explore the causes and reasons of the flaring (to create understanding), and to make the issue visible 'live' to the operating crew with a target flare rate to beat (mental driver). It aims at setting the culture on offshore platforms that every flare reduction counts.

The tool allows the offshore production crew, JV partner (MISC), and client (Murphy Oil), to work together to reduce the flare volume from the Kikeh FPSO, hence reducing the greenhouse effect of the Kikeh operation.





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An initiative by Malaysia Digital Economy Corporation (MDEC)



GROM representatives Ivan Yeung and Koen Munneke receiving the MISA Most Innovative Start Up Award from Chief Judge, H.E. Karin Mössenlechner, MDBC Director Remco Koster, and VIP Guest YB Brig. Jen. Khairy Jamaluddin

The winner of the MISA '17 Most Innovative Start - Up Award GROM, seeks to address a serious issue in Healthcare. There are over 1 billion people worldwide suffering from orthopedic ailments. In 2016, doctors prescribed 8.1 million orthopedic insoles alone to address these problems.

GROM has built a unique B2B application in the Healthcare IT space. GROM's podiatry application lets doctors fully digitize the measurement and prescription process. It uses 3D scanning, mobile, and cloud computing to digitize the prescription process for custom medical devices (ie Orthotics, custom braces, prosthetics).

This easy to use solution results in reduced cost and turnaround time for doctors, laboratories, and patients. It results in 96% lower startup costs; 50x faster prescription; 46% lower insole prices; 7x faster insole delivery. With the elimination of physical casting material, doctors can visit customers at their homes and save sending costs. This quickly reduces the environmental footprint of medical devices to a minimum.

Clinicians not only offer a faster and more seamless solution to their patients. With GROM, clinicians no longer have to settle for a limited range of medical devices as they go from being stuck with a single provider to a broad network of orthotics manufacturers.

This improvement in the provision of medical devices directly helps answer the exponentially growing challenge of aging, diabetes, arthritis, and obesity across the region.

According to GROM, the need of orthot-

"Our startup will help doctors / clinics / hospitals offer the best medical devices at any time and any where.

No longer will patients have to live subpar lives due to inaccessible healthcare. No longer will clinics have to rely on a bad producer due to lack of access.

By installing GROM on their iPad (smartphone) they have instant access to reliable and high quality services that give them access to amazing medical devices."

ics has always been there, and the technology to make them has been around since the 19th century. Casting is the oldest way to create orthotics, and surprisingly, it is still being used today.

GROM is looking at 3D scanning, cloud computing, and mobile tech to revolutionize the way practitioners prescribe orthotics. After the prescription, GROM

## GROM

is also creating a marketplace for international manufacturers.

GROM has an extremely strong team with more than 30 years of relevant industry experience. They are made up of serial entrepreneurs that have successfully started businesses in the United States, Europe, and Asia. The majority of them have raised consecutive rounds of funding and they harness in depth medical experience.



l to r: Isma Husein (Consultant, &samhoud), Sahil Sharma (Consultant, &samhoud), YB Brig. Jen. Khairy Jamaluddin, H.E. Karin Mössenlechner, and MDBC Director Mirjam van Thiel

&samhoud is a consultancy firm that is both usual and unusual. It achieves breakthroughs by inspiring and connecting people: in organizations, in society, and in terms of personal development. Innovation runs deep in the DNA of &samhoud, which is why it has become the norm.

Internally, they continuously strive to develop and integrate innovative tools in their approach to accelerate behavioral change like Virtual and Augmented Reality and serious gaming. Being able to develop alternative and innovative approaches, positions &samhoud as a usual unusual consultancy firm. This sets a culture where their consultants are constantly innovating consultancy in different ways, but also more importantly, in relevant ways to the new digitial generation.

One of the innovative breakthroughs in &samhoud's business is applying immersive learning in change management and cultural transformations. Immersive learning uses Serious Games and Virtual - and Augmented Reality (VR / AR) to revolutionize the way institutions and corporate organizations develop people skills and behavioral change within their employee group. Combining behavioral psychology and technology, immersive learning provides the users a simulation where they are able to gain an immersive experience with all of their senses engaged.

Serious gaming contributes effectively to behavioral change through the underlying behavioral change model. This model is based on extensive research regarding behavioral change and offers a practical guideline for designing and applying gamification. In order to create sustainable behavioral change, &samhoud addresses the following steps: 1. **Awareness:** Focused on knowledge, understanding the desired behavior and the purpose (why).

2. **Intention**: A positive intention to bring the knowledge into practice (creating a positive attitude).

3. **Behavior**: In a gamified environment, behavior is being experimented with, tested, and strengthened.

4. **Habit**: Through repetition and application.

VR and AR on the other hand are able to provide skills development and behavioral change in a fun and experiential manner. VR and AR are able to immerse their users in new ways and have to high potential for compelling storytelling.

Immersive learning using games and VR / AR has revolutionized the way institutions and educational organizations are able to develop people skills and change behavior.

Immersive learning lies at the intersection of behavioral psychology and technology. Immersive learning, when designed correctly, contributes to behavioral change by offering:

A Safe Environment: Immersive learning provides a safe and simplified environment to experiment with behavior that is hard, risky, or costly to experiment with in real life. Guided failure builds confidence and enhances the applicability of new behavior.

**Enhanced Participant Engagement**: Immersive learning leverages people's natural drive for competition, freedom of choice, achievement, status, self - expression, fun and exploration. By providing an inspirational and connected learning environment, institutes are able to create and boost engaged development.



**Highly Scalable, Highly Personal:** Games continuously measure a player's performance and adjusts the challenge to his / her current skill level, so the player is constantly challenged at the correct level. This not only creates a flow experience, but also makes game based training a highly personal, yet very scalable process.

**Continuous Feedback Loops**: Immersive learning creates continuous feedback through personal scores, reports, graphs that visualize performance, and peer - to peer feedback. Measuring progress, on an individual and organization level, occurs simultaneously.

A Learning Environment That Appeals To The New Digital Generation: Immersive learning addresses a generation that gains information from online sources and multitasks, networks, and interacts as part of their nature.

Externally, &samhoud's approach to immersive learning provides a higher value for money as compared to existing traditional workshopping approaches. With serious gaming and VR / AR, &samhoud is able to broaden the value proposition to their clients, build up a deployment scale for their clients in the shortest possible time with less resources spent.

One of their latest example is how they use VR / AR in running the induction program for newly recruited employees with client Albert Heijn. By experiencing immersive storytelling using VR gear, the new recruits are able to understand the perspective of operational staff, store managers, and customers in Albert Heijn supermarkets. For &samhoud's clients, this helps to position them as the first in the industry to embrace technology and be a market leader in the digital age.

According to &samhoud, "The components in immersive learning are not really new and fresh to the market. What makes us innovative is how we use them in our business. The use of VR / AR has positioned us as a market leader in applying technology in our consultancy approach."



Dr. David Ross Appleton (Head of Biotechnology & Breeding, Sime Darby Plantation) proudly receiving the MISA '17 Best Product Innovation Award Plaque from VIP Guest YB Brig Jen Khairy Jamaluddin, Chief Judge H.E. Karin Mössenlechner, and MDBC Director Mirjam van Thiel.

Sime Darby Plantation's history can be traced back to the 1800s, with the creation, evolution, and subsequent merger of three separate companies - Sime Darby Berhad, Golden Hope Plantations Berhad, and Kumpulan Guthrie Berhad, which became the Sime Darby Group. The merger in 2007 established Sime Darby Plantation (SDP) as the plantation and agri - business arm of the Sime Darby Group, representing one of the five core Dvisions of the Group.

For more than a decade, SDP has grown from strength to strength and evolved to not only become a fully integrated global plantation company, but also the world's largest oil palm plantation company (by planted area) and the world's largest producer of Certified Sustainable Palm Oil (CSPO).

The palm oil industry is no stranger to major environmental issues such as deforestation, habitat degredation, and climate change. Taking these challenges into consideration coupled with the ever growing demand to produce more edible oil with limited natural resources, SDP took a bold step to decode the oil palm genome.

In just 7 years after decoding the oil palm genome, SDP developed new methods to adapt to their industry's unique challenges, through the commercialization of their Genome Select oil palms in plantation. Oil palm is 10x more productive than other oil crops and Genome Select will enable up to a 16% increase in crop yield potential above their best performing materials.

Increase in crop productivity translates to saving SDP the need to plan an additional 50,000ha of new land, reducing their impact on the evironment. Genome Select also enables the introduction of new traits into commercial varieties that address change and labor shortages, two other critical issues for sustainability in the future. Teamwork between Operations and Research teams have led to an accelerated scale up of this new product and paved the way to the application of digital technologies to monitor and improve crop performance in the future.

With a strong belief that genome science could revolutionize the oil palm industry and make it even higher yielding and sustainable, SDP sequenced the oil palm genome in 2009. An international Scientific Advisory and Consultation Panel was established, and with a young team of local scientists, oil palm genomics was taken from basic research to the development of new science, optimization, and successful commercial application in 7 years.

Along the way, it has led to the complete restructuring of plant breeding and seed production. SDP is the first company to develop genetic models for direct selection and in silico breeding for overall yield improvement, and more importantly, to implement systems to apply it commercially. This required new methods to be developed, combining state of the art genetic approaches developed for plants as well as human skill.

This has now led to insights for future crop improvement to tackle pertinent issues such as climate change. The team has developed new sampling and labelling technologies, along with data processing and modelling on an unprecedented scale. A genetic testing facility was established locally and is one of the biggest in Southeast Asia.

Genome Select technology was then advanced further by the team to make it 99% cheaper and currently SDP has 1000ha of material ready for planting in the next 12



months. Full replant capacity for SDP will be achieved by 2023.

Genome Select brings state of the art technology to oil palm for significant improvements in crop productivity without the need to increase agricultural land. The ability to commercialize new traits faster will improve harvesting efficiency and may enable automation in the future as well as improve drought / climate change tolerance - perhaps the two biggest concerns for sustainable crop yields in the future. New scientific discoveries have been shared in top ranking scientific journals to provide both critical review as well as communication with the wider industry and scientific community. The yield increase projected with the Genome Select palms will deliver yields up to 11MT/ha compared to the current yields of 5 MT/ha, with further increases in the coming 5 - 10 years. This will significantly improve oil palm value return and will be made available to the industry through seed sales.

SDP is the first company to apply genomic technologies for oil palm commercially. The scale of oil palm planting and the aggressive plan to commercialise Genome Select also required the establishment of new facilities at the same time as developing cutting edge technologies. This is important because oil crops are an essential ingredient for food supply with a growing world population. With the human population expected to reach 9 billion by 2050, it has been estimated that 44% of the required additional calories will come from oil crops. Oil palm is almost 10 times more productive than other oil crops making it a key ingredient to providing for the expected increased demand.

Genome Select enables a 16% in yield potential, which for Sime Darby alone, is equivalent to planting palms on 50,000ha of new land - land which can now be put to other uses or left untouched. Genome Select also enables the introduction of new traits into commercial varieties that address the issues of climate change and labor shortages. Once these materials are available for the entire industry, it will significantly improve the productivity for all plantations and farmers while meeting the demands of a growing world population.





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