



# NUSGRIP

GRADUATE RESEARCH INNOVATION PROGRAMME

## ***RUN 6 LIFT-OFF DAY***

NUS Deep Tech Start-Up Showcase

◆————◆  
**TEAMS**

*FEATURING* **20 DEEP TECH  
INNOVATIONS AND TECHNOLOGIES** ▶▶▶

A Flagship Innovation Programme by:



**NUS**  
National University  
of Singapore

Industry Liaison  
Office



## Programme Schedule



**9.30am – 9.45am**

**Opening speech**

**9.45am – 10.45am**

**Teams pitching and Q&A**

*(Engineering, Sustainability, Healthcare and Food)*

- |                    |                           |
|--------------------|---------------------------|
| 1. ArmasTec™       | 6. CycField               |
| 2. Alpha Electrics | 7. Spotics                |
| 3. Marino Solar    | 8. M.I.Cloud Technologies |
| 4. AquaViolet      | 9. Casa Medico            |
| 5. HiveBotics      | 10. Curated Culture       |

**10.45am – 11.00am**

**Break**

**11.00am – 12.00pm**

**Teams pitching and Q&A**

*(Infocomm Tech, Internet-of-Things, FinTech, Artificial Intelligence)*

- |               |                        |
|---------------|------------------------|
| 1. MediVR     | 6. MoneyMoves          |
| 2. Aleph      | 7. SensAI              |
| 3. ConcreteAI | 8. EMERGE (dial in)    |
| 4. BAE        | 9. Algno (dial in)     |
| 5. Emacare    | 10. 8VERLINK (dial in) |

**12.00pm – 6.00pm**

**1-to-1 Networking Session**





## Our Teams

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5. <b><u>AquaViolet</u></b>	Your choice of UV solution	8
6. <b><u>ArmasTec™</u></b>	Empower the human body	9
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18. <b><u>MoneyMoves</u></b>	Micro-investments through social commerce	21
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20. <b><u>Spotics</u></b>	Gas Detection Reimagined	23





## Team members



**Tung NGO (PhD)**  
Business Lead



**Quoc Viet MAI (BEng)**  
Technology Lead



**Pengde WU (PhD)**  
Technical Advisor



**Derrick LEE**  
Commercial Champion




**Roger CHEONG**  
Venture Dev Mngr



**HJ CHEN**  
Technology Mngr

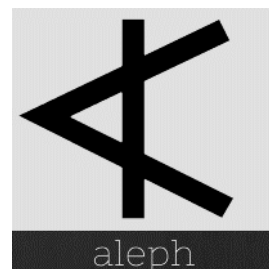
## Ever Link. Ever Insight

In the Supply Chain and Logistics industries, the ability to track and monitor conditions during transportation can ensure product quality and safety. However, the majority of businesses have limited or no visibility to shipment conditions – resulting in damages to goods.

8VERLINK aims to accelerate the adoption of IoT solutions in the supply chain industry with our proprietary battery-free wireless sensing solution that provides real-time 24/7 monitoring with maintenance-free operations. 

8VERLINK's battery-free wireless sensor networks can be easily installed on transport vehicles and cargo. The solution can be deployed at a large scale, for granular and precise monitoring of a wide range of parameters. It provides a foundation to gain actionable insights through end-to-end visibility in the supply chain industry.





## Team members



**Sushant GARUD** (PhD)  
Co-Founder and  
Technical Lead



**Suwira TEO** (MSc)  
Co-Founder and  
Business Lead



**Iftekhar KARIMI** (PhD)  
Co-Founder and  
Technical Advisor



**Clairin LOH**  
Commercial Champion

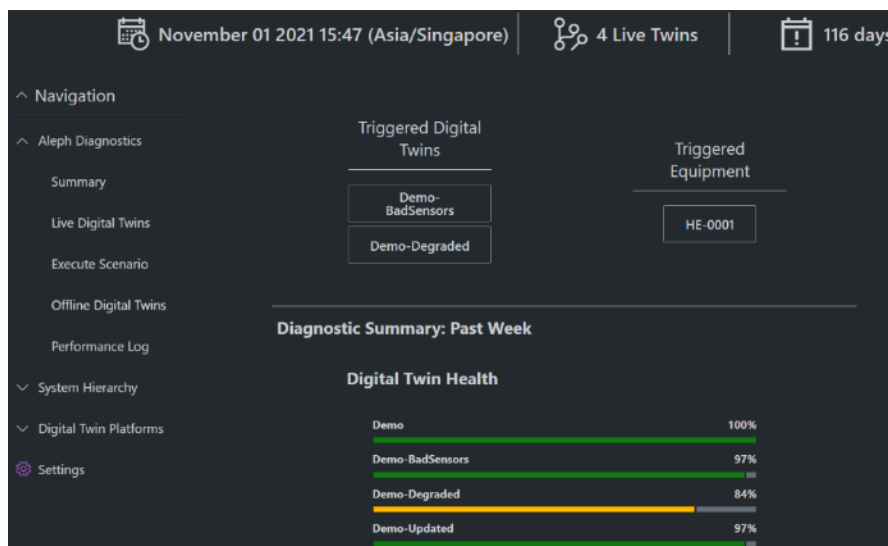


**Jack SO**  
Venture Dev Mngr

**Chih Hong EYOH**  
Technology Mngr

## Sustainable digital transformation with optimized digital twin

The rapid pace of digital transformation is resulting in myriad models (digital assets) conceived by a variety of software across various departments in a process plant. Soon, the number of digital assets and their native software will significantly outgrow the number of available experts who can manage, maintain, and employ these for routine activities. This gives rise to many dormant and/or obsolete digital assets that play crucial roles in reliable operations. Aleph's smart AI-driven platform keeps digital assets alive and aware by assessing their fidelity and automatically recalibrating them; essentially serving as a single source for enterprise-wide digital assets.





## Team members



**Zhihao CHEN** (PhD)  
CEO



**William WANG** (BEng)  
CMO



**Kenny KOH** (PhD)  
CTO



**Paul CHEN** (PhD)  
CFO



**Matthew TAN**  
Commercial Champion



**Chung-Pei OU**  
Venture Dev Mngr

**Grace WEE**  
Technology Mngr

## The future of algaecide

Harmful algal bloom is a global problem resulting in massive fish death among other problems. Algo developed a game changing solution by removing nutrients from water, which inhibits algae growth for up to 3 months. Algo's vision is a world with clear lakes, ponds, waterways and aquafarms. Their mission is to become the world's number one algae control solution provider.





### Team members



**Niklaus TEO** (BEng Student)  
CEO



**Ryan CHIN** (BA)  
CMO



**Royston SHIEH** (BEng Student)  
CTO



**Ai Poh LOH** (Assoc Prof)  
Advisor



**Gary WILSON**  
Advisor



**Raju SALAHUDDIN** (PhD)  
Advisor



**David PARDO**  
Commercial Champion



**Amir NIVY**  
Venture Dev Mngr

**HJ CHEN**  
Technology Mngr

### Move Different. Move Better.

Alpha Electrics is an Electric Mobility Energy start-up that aims to improve the adoption of electric 2 wheelers, 3 wheelers, buggies, and golf carts through its battery-swapping network.

By combining a seamless battery-swap charging technology with long-lasting batteries. The solution will address key issues relating to LEVs, including downtime, range anxiety and battery maintenance.







### Team members



**Qinqing CAI** (PhD)  
CEO



**Xiaochen LIU** (PhD)  
CTO



**Junfeng LI** (BEng)  
CMO



**Colin CHUA**  
Commercial Champion



**David SHER**  
Venture Dev Mngr

**Yoke Ping YONG**  
Technology Mngr

### Your choice of UV solution

AquaViolet provides the next-generation UV-LED disinfection system that can achieve broader disinfection spectrum, 50% higher disinfection effectiveness, 3 times longer lifespan, 3 times lower cost of ownership and 4 times easier maintenance as compared to the existing products in the market. The product can potentially help aquaculture farmers achieving higher survival rate and reduce the operational cost so that they can enjoy a greater profit margin.







## Team members



**Rainier NATIVIDAD** (PhD)  
CEO



**Serene WONG** (MSc)  
COO



**Raye YEOW** (Assoc Prof)  
Advisor



**Ignatius RASIAH** (Prof)  
Advisor



**Emily DURAN**  
Advisor



**Hwee Tong LIM**  
Commercial Champion



**Alfred CHIA**  
Venture Dev Mngr

**Mun Loong CHIA**  
Technology Mngr

## Empower the human body

ArmasTec™ was founded in 2021 by Rainier Natividad and Serene Wong, with the aim to be the leader in comfortable and efficient body-assist apparel. Their product, the state-of-the-art AireLevate™ base suit, is powered by patented fabric-based air-spring technology to assist manual handling activities in the logistics and healthcare segments.

The company plans to launch their product first in Singapore, extending to Australia, Europe and the USA in subsequent years. The first target sector is the logistics industry, including the sub-segments of movers, warehousing, and courier companies.





## Team members



**Jiamin LI**  
(PhD Student)  
CEO



**Yilong DONG**  
(PhD Student)  
CTO



**Jerald YOO** (PhD)  
CFO



**David ISAAC**  
Commercial Champion



**Amir NIVY**  
Venture Dev Mngr

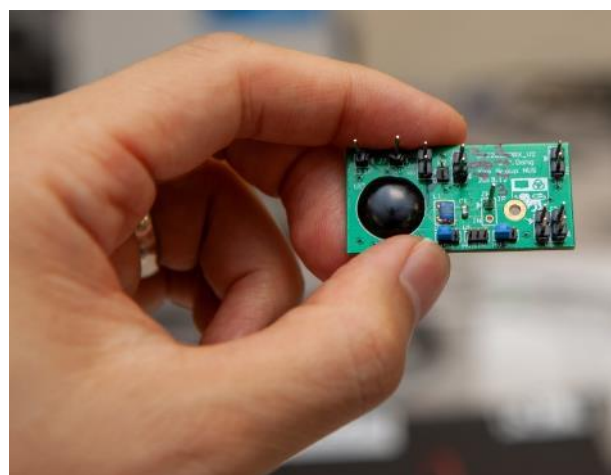
**Cynthia DUAN**  
Technology Mngr

## Portable, Wireless Powering for Wearables

Batteries occupy too much space in popular wearables. This space devoted to batteries is the key trade-off that limits product design and features. The ability to send power to wearables via wireless means can improve product form factor design and releases space for better tech and sensors onboard.



Our portable, wireless charging helps manufacturers accommodate higher power demand and maximise uptime for the consumers. Our patent-pending technology leverages tiny receiver and transmitter chips that supply power throughout, even while the devices are in use. By enabling the augmentation and relocation of power sources, we make wearables smaller, more powerful, and more convenient to keep powered.





## Team members



**Fabian MULIA**  
(MBBS Student)  
CEO



**Joshua SEETOH** (BEng Student)  
COO



**Gavin O'NEILL**  
Advisor



**Sipika SINGH**  
Commercial Champion



**Zhiyong LAM**  
Venture Dev Mngr

**Karen HE**  
Technology Mngr

## Reinventing mobility, one step at a time.

Patients faced with mild to moderate knee osteoarthritis (OA) conditions experience reduced quality in day-to-day mobility, resulting in a poorer quality of life. Globally, there are more than 650 million patients suffering from knee OA, and this number is only expected to grow.



Many of these patients deal with constant pain, but current direct interventions such as analgesics are short-term solutions with devastating long-term effects. Furthermore, current brace solutions are bulky and uncomfortable, resulting in patient non-compliance. This poses a risk due to poor and uncontrolled management of OA, resulting in the worsening of condition, and hence, reducing quality of life.

Therefore, our solution aims to create a personalised physiotherapy aid, designed to relieve pain, improve mobility and delay the need for surgery for patients suffering from knee OA.





## Team members



**Qingyang CHANG** (BEng)  
Engineering & Product Lead



**Xi Yi OOI** (BEng)  
IoT Lead



**Isaac SLOW** (BEng)  
Business Lead



**Yun Han LIM** (BEng)  
Mechanical Lead



**Kevin KUANG** (Asst Prof)  
Advisor




**Siew Why LEONG**  
Commercial Champion



**John PHILLIP**  
Venture Dev Mngr

**Mun Loong CHIA**  
Technology Mngr

## Smarter concrete monitoring for better construction outcomes.

Effectively testing concrete strength is critical to keeping construction projects safe and on schedule. However, the current method of indirect concrete cube testing is inaccurate and inefficient. This can saddle projects with cost overruns and schedule delays of up to 10%. 

ConcreteAI utilises connected sensors coupled with machine learning algorithms to enable real-time monitoring of concrete strength gain. Concrete strength can also be measured directly within built structures with up to 97% accuracy. Our solution can reduce the need for manual cube testing by 75% and improve construction efficiency by 20%.







## Curated Culture

### Team members



**Christian EVISTON-PUTSCH** (MBA Student)  
CEO



**Shermaine HENG** (BSc)  
COO



**Shu Wen SEW** (MSc Student)  
CTO



**Shao Quan LIU** (Assoc Prof)  
Advisor



**Amal KELSHIKAR**  
Commercial Champion



**David SHER**  
Venture Dev Mngr



**Debashish PAL**  
Venture Dev Mngr

**Na ZHAO**  
Technology Mngr

### More than just good taste

4 in 10 people worldwide suffer from gastrointestinal disorders. Irritable gut can severely disrupt work, life and play. Curated Culture wants to challenge the notion that "healthy living cannot be enjoyable"! With probiotic coffee and probiotic tea, we can indulge in good food without guilt. Each cup provides the daily recommended dose of more than 1 billion CFU of active probiotics, keeping our guts and immunity strong.



Curated Culture's beverages are ready-to-drink, sugar-free, dairy-free, vegan- and keto-friendly. We combine the age-old tradition of fermentation with deep tech to create enhanced beverages that can improve the well-being of individuals.



## Team members



**Yanjie XU** (PhD)  
CEO



**Wenxin DONG**  
(PhD Student)  
CTO



**Liuyang FENG** (PhD)  
CPO



**Xudong QIAN** (Assoc Prof)  
Advisor



**Kum Leong LEE**  
Commercial Champion



**Jack SO**  
Venture Dev Mngr

**Prasanna SHIRIDI SAI**  
Technology Mngr

## A breakthrough technology for sustainable water treatment.

Increasing demands for water treatment efficiency and new regulations with more stringent discharge limits are driving a need for a more effective technology which produces better effluent quality, especially for phosphorus and nitrogen pollutants.



CycField's new material, CycPowder™, is a breakthrough adsorbent material that has demonstrated better effectiveness in phosphorous removal from water than any other existing commercially available process. Furthermore, CycPowder™ features a unique regenerable function where sludge disposal is of little concern.







## Team members



**Chun How OH**  
(MTech Student)  
Founder



**Matthew CHUA** (PhD)  
Advisor



**Yzhar PERRY**  
Commercial Champion



**Amir NIVY**  
Venture Dev Mngr

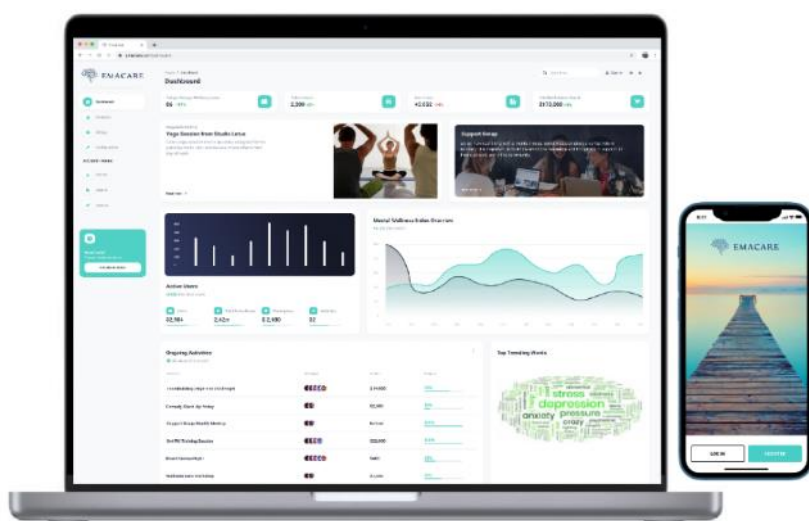
**Cairan HE**  
Technology Mngr

## Mental wellness for a healthier workplace

The mental demands of modern worklife are causing unprecedented levels of stress in workplaces. Employee stress costs companies millions of dollars, due to decreasing productivity, absenteeism and higher staff turnover. The problem is obvious, but the solution is not.



As a one-stop employee mental wellness management platform, Emacare engages employees in personalised activities such as art therapy, serious games and other wellness activities that are specially designed to promote mental wellness. Emacare utilizes proprietary Emotion AI (EMA) to identify employee mental wellness through tangible and quantifiable metrics, and provide actionable recommendations to both employer and employees to consciously and meaningfully improve collective mental well-being, to build a healthier, more sustainable workplace.



## Team members



**Temuulen BAYARAA** (MPP)  
CEO & Co-Founder



**Gunbiligt BAYASGALAN** (MSc)  
COO & Co-Founder



**Colin GOH**  
Commercial Champion



**Kevin LEUNG**  
Venture Dev Mngr

**Chih Hong EYOH**  
Technology Mngr

## Building ESG-driven business transaction platform

Every year, companies spend up to \$2 million on environmental, social, and governance (ESG) compliance and disclosure activities. At the same time, many social enterprises suffer from lack of funding and high procurement costs due to lack of scale.



EMERGE's ESG-driven impact aggregation platform connects suppliers with social enterprises. By integrating ESG and CSR into the procurement processes, the impact of social enterprises are translated directly into suppliers' ESG performance outputs. With our proprietary ESG assessment, AI impact aggregation and recommendation system, impact measurement and ESG reporting can be streamlined, with up to 4 times improvement in efficiency.





**HiveBotics**

## Team members



**Rishab PATWARI** (BEng)  
CEO & CTO



**Tuan Dung NGUYEN**  
(BEng)  
COO



**Mun Kong LEONG**  
Commercial Champion



**Roger CHEONG**  
Venture Dev Mngr

**Ziying YUAN**  
Technology Mngr

## Autonomous Bathroom Cleaning Robots

Current commercial cleaning is heavily reliant on human labour. With an unreliable manpower supply due to absenteeism and rising salary costs, it is a long-standing challenge for hotel housekeeping managers who need cleaning to be done well and fast.



HiveBotics addresses this problem through their all-in-one autonomous bathroom cleaning robot, Abluo, which can automate tasks like toilet bowl cleaning, window/mirror wiping, and even floor cleaning on a single platform. With automation, overall room cleaning turnaround time can be reduced by up to 40%.

In the near future, HiveBotics aims to expand to shopping malls and offices, and eventually, even to our homes!



## Team members



**Zaid KHAN** (MSc)  
CEO



**Ping YANG** (MSc)  
CTO



**Mayank GURNANI**  
Advisor



**Teck Moh PHEY**  
Commercial Champion



**Alfred CHIA**  
Venture Dev Mngr

**Prasanna SHIRIDI SAI**  
Technology Mngr

## Improve sleep quality

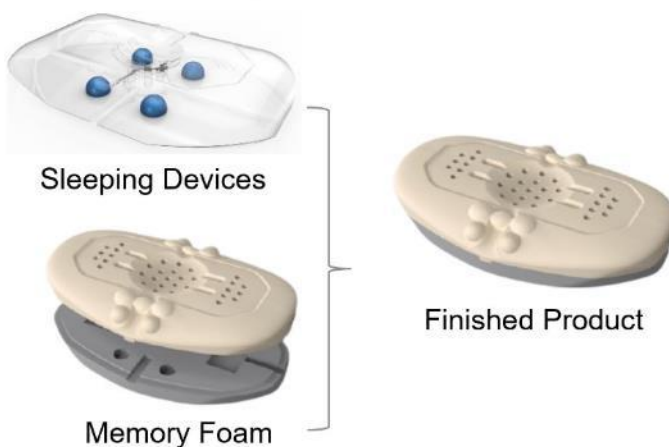
M.I.Cloud Technologies aims to improve targeted blood circulation through patented Magnetic Interference Cloud Technology, which uses a unique array of rare earths that emits a spiral force to increase surface free energy of organic matter. It helps to improve the tone of blood vessels and hence, improve blood circulation.



This unique array can be encapsulated inside a small structure, which can be worn any time anywhere. Through embedding in a memory foam pillow, it can help to improve blood circulation and muscle tone in the throat area to open up air passage and improve breathing during sleep.

### TOTAL SLEEP SYSTEM

15 Invention Patents







marino solar

## Team members



**Arifeen WAHED** (PhD)  
Co-Founder



**Ivan POPOV** (MBA/MSc)  
Co-Founder



**Christian REICHE**  
Commercial Champion



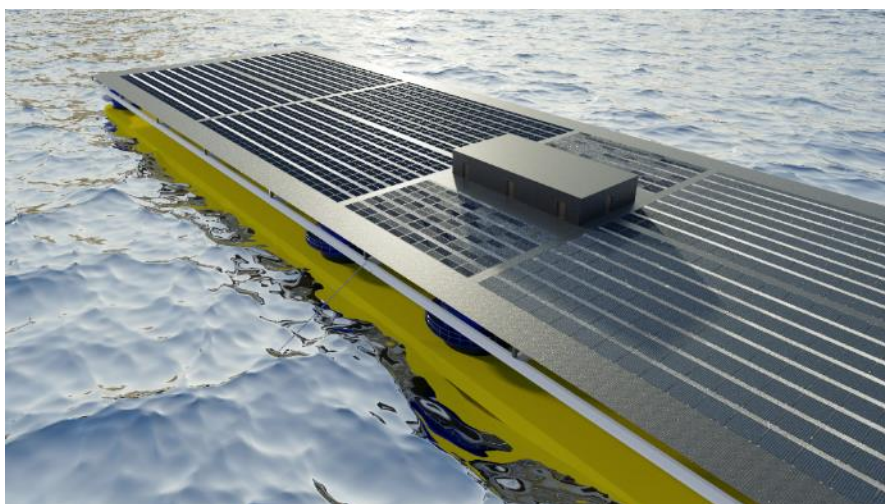
**George HAN**  
Venture Dev Mngr

**Na ZHAO**  
Technology Mngr

## Offshore Solar Floating Structure

Floating solar photovoltaic (PV) systems provide clean energy and offset significant levels of carbon emission, but currently technologies are limited to inland and near-shore water bodies. Existing technologies cannot be deployed in offshore conditions due to the effect of large wave, strong wind and maritime environment which causes corrosion and biofouling.

Marino Solar has developed an offshore floating structure with integrated PV system, which can operate for prolonged periods under challenging maritime conditions, provides efficient and cost-effective power for different offshore applications.



## Team members



**Anthea FOONG** (BEng)  
CEO



**Aiden KOH** (BEng)  
CTO



**Jeremy ONG** (BEng)  
CMO



**Han Wei NG** (PhD Student)  
CIO



**Edward TAY**  
Commercial Champion



**Kevin LEUNG**  
Venture Dev Mngr

**Jonathan TAN**  
Technology Mngr

## The catalyst of medical training

MediVR is a leading Singapore-based deep technology company that brings gold standard medical practices to all medical professionals. To deliver this world class training, MediVR works with top medical institutions to create a complete training platform for medical professionals to easily create scenarios and train with.



MediVR's industry leading artificial intelligence and scenario generation engine creates an experience that contextualises and adapts in real time to unique inputs. Additionally, MediVR leverages on data analytics to provide key insights which will improve performance and training success.







### Team members



**Ryan DE SOUZA** (BEng)  
CEO



**Jason KAHARUDIN** (BSc)  
CTO



**Sam GIBB**  
Commercial Champion

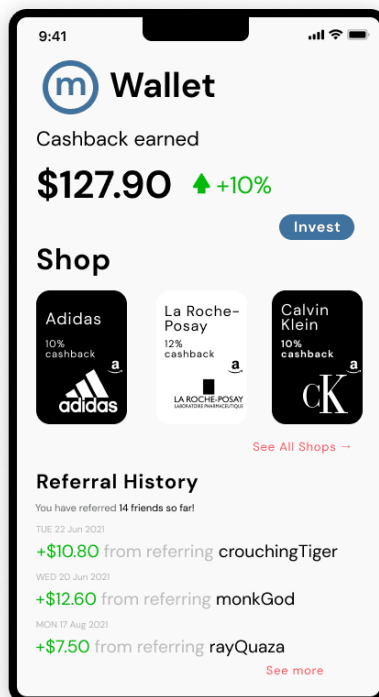


**Cato GULLICHSEN**  
Venture Dev Mngr

**Wilson TENG**  
Technology Mngr

### Micro-investments through social commerce

Generation Z wants to invest and grow their money but find it difficult to compromise on their existing lifestyle. MoneyMoves enables anyone to make micro-investments through product recommendations of their favourite brands. Our affiliate platform allows users to become an affiliate and earn cashback within 30 seconds based on our instant cashback algorithm. Our algorithm allows us to pay out cashback upon purchase of products compared to traditional platforms with lead time up to a week. In addition, users will be able to generate more returns on their cash backs compared to what would otherwise be left in a bank account, e-wallets or spent on their next purchase.



## Team members



**Kevin CHNG** (PhD)  
CEO



**Nurman JUPRI** (BEng)  
CTO



**Jerron CHUA** (BEng)  
CPO



**James ONG**  
Commercial Champion




**Kevin LEUNG**  
Venture Dev Mngr

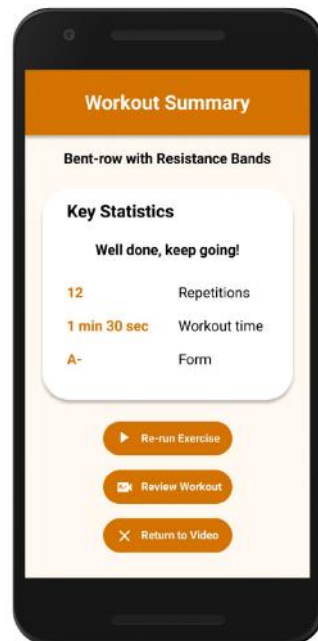
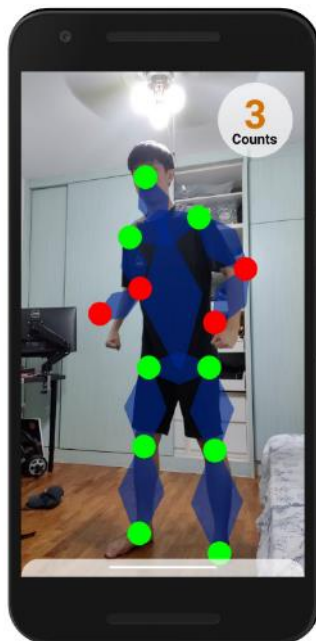
**Cairan HE**  
Technology Mngr

**Jonathan TAN**  
Technology Mngr

## Mobile companion for active ageing

Failure to age actively increases the risk of diseases, fragility and disability. This can negatively affect the well-being of individuals, as well as impact families, health, social and economic systems. While physical activity programmes play a vital role in promoting active ageing by maintaining our body functions, accessibility to these programmes are hindered by physical, logistics and pandemic challenges. 

Hence, we developed a one-stop, unified platform that allows individuals to conduct their physical health assessments, receive real-time exercise guidance and track their health status. The platform is delivered through mobile phones, which provide the necessary convenience and accessibility for users to engage in active ageing.





# spotics

## Team members



**Jeremy CHEW**  
(MEng Student)  
CEO



**Yi QI** (PhD)  
COO



**Zi Heng LIM**  
(PhD Candidate)  
CTO



**Guangya ZHOU**  
(Assoc Prof)  
Technical Advisor



**Debashish PAL**  
Venture Dev Mngr

**Yoke Ping YONG**  
Technology Mngr

## Gas Detection Reimagined

Industrial gas leakage is a serious safety and environmental hazard and is a SGD 3.6 billion market. The available solutions are restrictive, slow or too expensive for widespread use. Spotics has developed a compact multi-gas detector that leverages on a new and patented approach to mid-infrared spectrometry. Capable of detecting multiple gases with a single unit, our launch product, the SPOT 3000, is more sensitive, more portable and much more cost-effective. We aim to not only capture a good share of the free-space gas detection market but also expand into environmental monitoring applications in the long run.



# Download All Teams Factsheets



<http://bit.ly/R6LOD-factsheets>

# NUSGRIP

GRADUATE RESEARCH INNOVATION PROGRAMME

# THE FLAGSHIP INNOVATION PROGRAMME

by NUS Industry Liaison  
Office enabling NUS  
postgraduate students  
and researchers to  
develop commercially  
viable and investible deep  
tech start-ups





# About NUS GRIP

Launched in October 2018, the NUS Graduate Research Innovation Programme (NUS GRIP) is the Industry Liaison Office's flagship innovation programme. Based on our extensive experience working with deep technology, the programme will provide step-by-step guidance to NUS postgraduate students and researchers to cultivate deep tech entrepreneurs, to transform the university's world-class research into their own deep tech start-ups.

Twice a year, 25 teams are selected from the best and brightest NUS researchers and postgraduate students to equip them with entrepreneurial skills and experience.

For the duration of one year, teams will undergo a transformation journey through a series of workshops, mentorships, industry linkages and incubation support, to develop commercially viable and investible deep tech start-ups. NUS will invest up to S\$100,000 in start-ups demonstrating high commercial potential to accelerate their growth. We are committed to take in 50 teams a year, generating a pipeline of up to 250 teams in five years.



Find out more at  
<http://nus.edu.sg/grip/>



Connect with the teams  
[gripventures@nus.edu.sg](mailto:gripventures@nus.edu.sg)



**EXPECT  
THE FUTURE**



# NUS INDUSTRY LIAISON OFFICE

The NUS Industry Liaison Office (ILO) is the technology translation and commercialisation arm of the National University of Singapore (NUS). Over the last five years, ILO has played a pivotal role in getting more than 740 patents granted and more than 130 technology-based companies spun off from the NUS.





**NUS**  
National University  
of Singapore

Industry Liaison  
Office

More than

**740**

Patents  
Granted

Through innovative programmes delivered in a customer-centric manner, ILO provides funding, connections and expertise to students, researchers and professors, whether they are seeking to create a spinoff company or partner with established industry players to translate their innovations into the market place.

More than

**130**

Tech Company  
Spin-offs  
from NUS

The ILO team comprises of technical, business and legal expertise that commercialises any technology-based opportunities.



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🌐 [linkedin.com/company/nusgrip](https://linkedin.com/company/nusgrip)

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