



ALP Synergy Ltd

### **Capacity Building Workshop (3): Reviewing the key opportunities for improving the legal framework and building the innovation community for technology transfer in Malaysia.**



**A report to the Newton-Ungku Omar Fund partnership on the third and final workshop in a series of three, which took place on the 19<sup>th</sup> & 20<sup>th</sup> January 2021. These workshops are part of the Project entitled “Professional Development and Engagement on Governance, Regulatory Framework and Policy Support for Knowledge Exchange and Technology Transfer in Malaysia.”**

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**A report to the Newton-Ungku Omar  
Fund partnership on the 19<sup>th</sup> & 20<sup>th</sup>  
January 2021 Workshop**

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**Contact:**

**Kuek Yen Sim, Head, Newton Fund and Science,  
The British Council, Malaysia**

**[YenSim.Kuek@britishcouncil.org](mailto:YenSim.Kuek@britishcouncil.org)**

***Report authors:***

**Ant Parsons & Dr Liz Bell**

**[www.alpsynergy.co.uk](http://www.alpsynergy.co.uk)**

**Contributing authors:**

**Tom Hockaday, Technology Transfer Innovation**

**Dr Stan Kowalski, Franklin Pierce Center for  
Intellectual Property (IP) at the University of  
New Hampshire**

***Contact:***

**[ant@alpsynergy.co.uk](mailto:ant@alpsynergy.co.uk)**

**[drlizbell@alpsynergy.co.uk](mailto:drlizbell@alpsynergy.co.uk)**

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## Abbreviations / Acronyms

ASM	Academy of Sciences Malaysia
ATTP	Alliance of Technology Transfer Professionals
BEIS	UK Department of Business, Energy and Industrial Strategy
CASE	UK Collaborative Awards in Science and Engineering
CEO	Chief Executive Officer
EFQM	Excellence for Quality Management
ESRC	UK Economic and Social Research Council
IAN	Innovation Acceleration Network
ICT	Information and Communication Technologies
IMR	Institute of Medical Research Malaysia
IP	Intellectual Property
IPR	Intellectual Property Rights
IT	Information Technology
ITEC	Innovation Technology Entrepreneurship Centre
ITMA	Innovation and Technology Managers Association Malaysia
ITTI	International Technology Transfer Institute
JPA	Public Service Department (Malaysia)
KETT	Knowledge Exchange and Technology Transfer
KPIs	Key Performance Indicators
KTP	UK Knowledge Transfer Partnerships
MaGIC	Malaysian Global Innovation and Creativity Centre
MIGHT	Malaysian Industry-Government Group for High Technology
MIT	Massachusetts Institute of Technology (USA)
MOH	Ministry of Health
MOHE	Ministry of Higher Education
MOSTI	Ministry of Science, Technology and Innovation
MyIPO	Intellectual Property Corporation of Malaysia
MyRA	Malaysia Research Assessment
MyRMA	The Malaysia Association of Research Managers and Administrators
MySTIE	Malaysian Science, Technology, Innovation and Economy Framework
NASA	National Aeronautics and Space Administration (USA)
NIH	National Institutes of Health Malaysia
NPSTI	National Policy on Science, Technology and Innovation
NRS	National Regulatory Sandbox
NSC	National Science Council
NTIS	National Technology and Innovation Sandbox
OUI	Oxford University Innovation
PDE	Newton Professional Development and Engagement
R&D	Research and Development
SDG	Sustainable Development Goals

SMEs	Small and Medium Sized Enterprises
STEM	Science, Technology, Engineering and Mathematics/Medicine
STI	Science, Technology and Innovation
STIE	Science, Technology, Innovation and Economy
TCA	Technology Commercialisation Accelerator
TTO	Technology Transfer Office
UCAS	Universities and Colleges Admissions Service (UK)
UK	United Kingdom
UM	University of Malaya
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UPM	University Putra Malaysia
USA	United States of America
UTM	Universiti Teknologi Malaysia
WB	World Bank
WIPO	World Intellectual Property Organisation



## 1.0 Introduction

This was the final workshop in a series of three planned in Year 2 (2020/2021) of the Project entitled “Professional Development and Engagement on Governance, Regulatory Framework and Policy Support for Knowledge Exchange and Technology Transfer in Malaysia.” The Year 2 project objectives are:

- (1) To create a conducive and supportive knowledge exchange and technology transfer governance, legal and regulatory framework in Malaysia.
- (2) To bring together all key technology transfer stakeholders and create a cohesive knowledge exchange and technology transfer landscape in Malaysia.
- (3) To develop a better understanding between legal advisors and technology transfer professionals, exchange experience and ways of working, build connections and dialogues to address some legal challenges for technology transfer in Malaysia.

The Project is being supported by the Newton-Ungku Omar Fund and delivered by the British Council and the Malaysian Industry-Government Group for High Technology (MIGHT). Innovation and Technology Managers Association Malaysia (ITMA) assisted in providing local context.

The project’s consultants are Ant Parsons and Dr Liz Bell from ALP Synergy Ltd, with Tom Hockaday and Dr Stan Kowalski as subject experts. The full project team information and biographies are included in Appendix 1.

The workshop was delivered online using the Cisco Webex platform managed by MIGHT and attended by over 30 legal practitioners and technology transfer professionals from Government Ministries and Agencies, Public and Private Universities. The workshop attendees are listed in Appendix 2.

## 2.0 Workshop Objectives

This 2-day workshop reviewed and discussed the issues identified in the previous two workshops to develop recommendations and action plans (short term, mid-term and long term) that can address some of the issues discussed. Following the workshop, a 1-day high-level Stakeholder Forum event was held to provide a platform where university senior management, and representatives from ministries and industries, were joined by the participants of the workshops to discuss selected topics. The Stakeholder Forum event is reported separately. The workshop objectives were:

- To reflect on the learning from Workshops 1 & 2.
- To identify the key recommendations and what actions we want to carry into the Stakeholder Forum and Roundtable event.

- To identify the short-term, medium-term and long-term actions, and who is going to work together to take issues forward.
- To support the shaping of an adaptable model to address legal challenges on technology transfer in Malaysia.

The full workshop agenda can be found in Appendix 3.

The welcome address was given by Mr Ahmad Razif Mohamad, Manager of the President & CEO's Office at the Malaysian Industry-Government Group for High Technology (MIGHT). Ant Parsons (joint Chair for the workshop with Dr Liz Bell) then provided an overview of the objectives and the agenda for the 2-day workshop.

### 3.0 The New Science, Technology and Innovation Policy and Framework

The session was chaired by Ant Parsons.

#### 3.1 National Policy on Science, Technology and Innovation (NPSTI) 2021 -2030

Dr Surinasirah Binti Pakih, Deputy Division Secretary, Strategic Planning Division, Ministry of Science, Technology and Innovation (MOSTI) gave a presentation on the new National Policy on Science, Technology and Innovation (NPSTI) 2021-2030.

Dr Binti opened by sharing insight on the performance of the country in terms of Science, Technology and Innovation (STI) based on the 2013-2020 policy. This highlighted good progress, but not yet meeting all the ambitious targets set, with three key challenges having restricted Malaysian success in STI:

- Lack of clear, overarching, agile governance and coordination in Governing STI.
- Insufficient talent planning and development.
- Insufficient Public-Private & International Engagement.

The NPSTI 2021-2030 Policy has four main areas of focus:

- Strengthening the STI governance including a new STI Act.
- Making STIE as an enabler in addressing national issues & challenges.
- Accelerating local technology development & application towards creating a high-tech nation, including strengthening national planning for STI talent development and the adoption of STI by SMEs.
- Promoting innovation for economic growth, societal well-being & quality of life, including for the benefit of underprivileged people.

The policy sets the goal for Malaysia to become a 'High-Tech Nation' and to realise this will mean taking an integrated approach for the two main sectors. The STI sector and the Economic Sector will be considered as one sector, to ensure that all related programmes are implemented to complement each other and have a high impact. This shows the importance of STI development as a fundamental of economic growth. The NPSTI will be implemented through 6 Thrusts, 20 Strategies and 46 Initiatives as illustrated in Figure 1.





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Figure 1: Implementing the National Policy on Science, Technology and Innovation (Dr Binti slides)



The NPSTI has over 100 indicators in total to monitor and report on progress in implementation. Nine of these are key indicators, including the formulation of an STI Act by 2023.

The NPSTI also establishes 10 ‘Game Changer’ programmes which will transition Malaysia from a technology user to being a technology developer and creator. These 10 Game Changer Programmes are shown in Figure 2.

**Figure 2: 10 Game Changer Programmes**



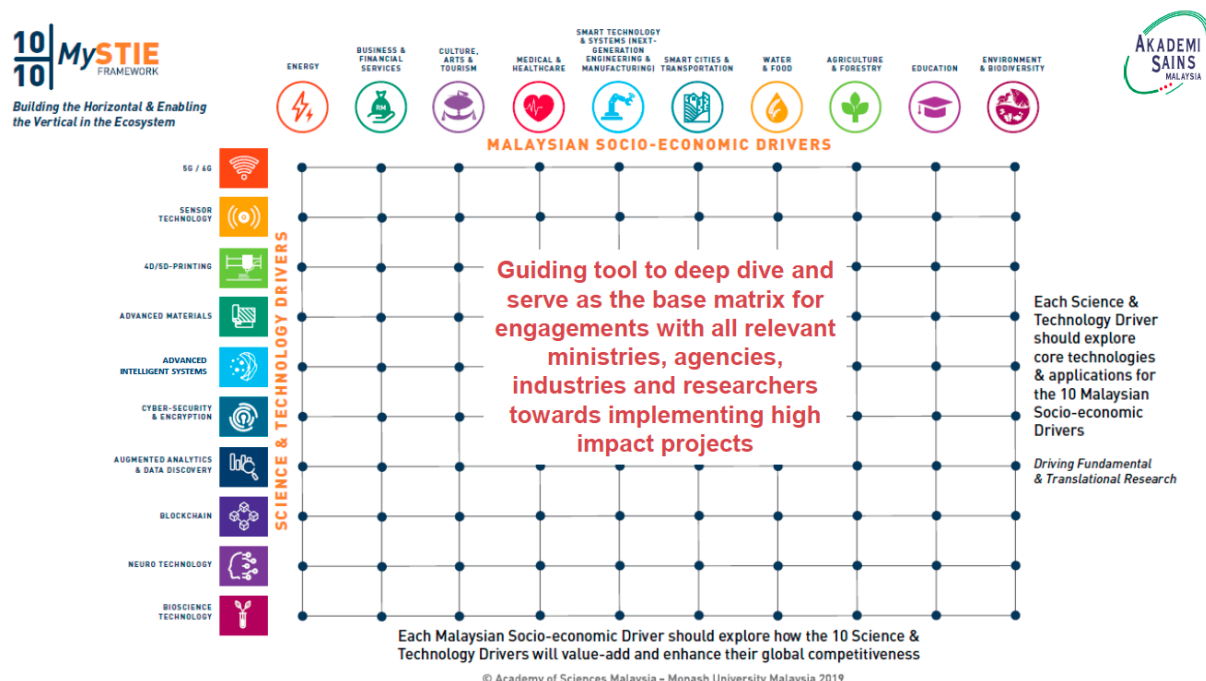
### 3.2 Malaysian Science, Technology, Innovation and Economy (MySTIE) Framework

The 10-10 Malaysian Science, Technology, Innovation and Economy (MySTIE) Framework aims to be “Trailblazing the way for prosperity, societal well-being & global competitiveness”. Puan Hazami Habib, the CEO of the Academy of Sciences Malaysia (ASM), presented to the workshop on the framework. Puan Hazami highlighted the ambition to shift Malaysia up the global innovation value chain, to create ‘seamlessness’ between R&D priorities and socio-economic activity, and with strong alignment to the SDGs. She noted that Malaysia has ‘pockets of excellence’ amongst its key sectors such as, IT Services and Electronics, but that

more sectors needed to improve as Malaysia was aiming to be a 3 trillion RM economy by 2030 (current GDP: RM1.42 trillion).

The 10:10 MySTIE Framework has been designed to take a “Technology View” of the world to develop new economic subsectors for Malaysia (for example agritech), based on multi partner collaborative models, for Malaysia’s competitive advantage. It is ingeniously simple in its presentation, connecting 10 Malaysian socio-economic drivers with 10 science and technology drivers in a 10 by 10 matrix. Each science and technology driver should explore core technologies and applications for the 10 Malaysian socio-economic drivers. The Framework is shown in Figure 3 below and can be reviewed in detail at: <https://www.akademisains.gov.my/10-10-mystie/>

**Figure 3: The 10:10 MySTIE Framework (Academy of Sciences Malaysia)**



Puan Hazami illustrated how the Framework is being used through a number of examples, highlighting where activity is focussing on ‘catch-up’ (current) technologies or ‘leap-frog’ (next generation) technologies. She also described how the Framework has been used to identify national STIE niche areas, 30 of which having been agreed and endorsed by the National Science Council in July 2020. The overall approach will be targeted but inclusive, strongly aligned to Malaysian strengths to act as an economic booster, and a catalyst for societal well-being and shared prosperity. The focus will be on developing clusters and collaborative platforms with identifying and supporting connectors.

In the discussion following the presentations, a question was asked how to get involved with the collaborative platforms? Puan Hazami responded that all the collaborative platforms are under the MOSTI IConnect Programme. TCA will be the coordinator of the platforms. The

platforms are based on the quadruple helix concept and will bring government, academia, industry and the community together. The platforms will also be places where government can help in developing regulatory frameworks, bringing in NTIS as research areas mature. Professor Samsilah commented that getting industry involved in the TCAs might be significantly more challenging initially than getting researchers involved.

### 3.3 What New Opportunities Do the NPSTI 2021-2030 and the 10:10 MySTIE Framework Create?

The workshop went into 4 breakout rooms to discuss the new opportunities created by the policy and the framework. The groups presented back to a plenary discussion chaired by Dr Liz Bell. The key points from this discussion were:

- The policy and the framework are excellent and will move everyone forward in a coherent way. It needs to be actively communicated to promote awareness and be clear to everyone how to get involved. Setting up a hub may help.
- It will be important to support local company supply chains to adopt Malaysian home-grown technology and innovation. Supporting more pilot projects and local patent filing may help.
- Technology transfer staff should be mentioned in the framework, ideally with training and a role to facilitate the use of the framework. They are the connectors the framework is looking for and need to be central to it. ITMA could lead TTO involvement with the collaborative platforms.
- Technology Commercialisation Accelerators (TCAs) will be important to support collaborations and help overcome barriers.
- The framework can help to boost collaboration and prevent competition. It is important to raise awareness of each other amongst all organisations involved. It needs to particularly address the existing hesitancy of academia and industry to work together.
- The frameworks should help avoid reinvention R&D. Data sharing will be key to this and also to help change mindsets.
- The 10:10 MySTIE Framework is excellent at the strategic level. Significant support is needed at the operational level for knowledge and data sharing to help implement the Framework.
- The issue of appropriate metrics and incentives to measure and encourage participation needs to be carefully addressed by policy makers.

## 4.0 The Opportunities Arising for Developing the Malaysian Legal Frameworks from workshops 1 & 2

### 4.1 Panel Interview with Professor Samsilah Roslan, Dr Stan Kowalski and Tom Hockaday

Ant Parsons chaired the Panel Interview session and asked each panel member to highlight their key take home messages from the first 2 workshops. The panel shared their thoughts around how complex technology transfer can be, with two parties seeking to find common ground which is then made into a legal agreement. Many issues need to be addressed for it to work, including “Who owns what?”, “Who will fund it?”, “How to share the profits?”, “How to handle regulation?”. If common ground cannot be agreed on any important issue the technology transfer falters. Negotiating deals is complex, trying to make connections between universities/industries/investors requires different types of people approaches understanding differing motivations. It is therefore very difficult to connect researchers with business people, but it is vital that we do this as universities are great engines of creativity. Effective connectors are all important. Therefore, they highlighted how important the Technology Transfer Officer (TTO) role clearly is, and how they needed networking, technical and deal making people skills to succeed. The workshops had recognised the importance of the TTO role, and that it needed greater recognition and support within Universities and from the Government. The role needs to be formally recognised in all policies and frameworks. Focused capacity building is needed.

The panel also reflected on the discussions in the workshops about the ‘innovation community’ and how that had a place within the innovation system. IP laws tend to be seen in a control and punish context, but they are actually there to build efficiency into the system and support technology ‘transactions’ for agile innovation. It can be compared to real estate law, the primary purpose of which is to sell homes, not to sue trespassers. However, IP laws could be better understood and utilised, a lot of investment in capacity building is needed. Regulatory frameworks also need to evolve as they are challenged by technological developments and societal needs in an iterative process.

The panel also reflected that policy makers need to consider the primary role of universities. Is it about making money or making impact? The latter, linking overall purpose and funding to impact and public benefit, is the real game changer for developing innovation led economies. General impact from research outputs should be prioritised rather than making money, enabling universities to do more, and a greater variety of, transactions.

The panel were then asked what messages from the presentation on the NPSTI and the 10:10 MySTIE Framework had most captured their attention. Stan liked what he had heard, but felt that something may be missing in the connection between the high level policy and framework, and the on the ground activity. The big question is how to build connections.



Building a hub to implement/accelerate policies may help. Stan also commented that it needs to be recognised that the development of technology transfer and innovation in the UK and the US in the 20<sup>th</sup> century was a relatively casual, iterative and evolutionary process. Success in the 21<sup>st</sup> century is a very different process, developing countries don't need to go through the same long process. Focused and determined investment is needed instead, for example in the supporting institutions such as court systems which will need to evolve in tandem in the systems being set up. It can be helpful to set a specialist Patent Court to oversee IP law. A participant commented that Malaysia already has a specialist IP court which currently only handles a very small number of cases annually. Stan responded that as innovation activity/transactions accelerate in the economy, the number of cases may exponentially increase requiring additional investment.

Tom believed that a 1-2 year communications plan would be needed to help the policy and framework become fully established in how people work. Whenever a new framework is introduced it takes time for people to absorb and understand it, the messages need to be shared, and regularly reshared, multiple times with diverse audiences. Explaining the STIE concept is key. The two really important concepts to make the framework work are (1) connectors and (2) the TCAs. Understanding how TTOs fit into TCAs to link these concepts is vital. To support connectors, networking events or "parties" are key, to get diverse people together as often as possible.

Professor Samsilah appreciated the importance of 'purpose and place' in the policy and framework, and was keen to see universities explore their purpose in the context of the framework. She highlighted that the workshops had shown the usefulness of the UK's McMillan Report on the true purpose of universities, and this should be central to the implementation of the policy and framework. An area that policy makers should also focus on is addressing how to develop the talent pipeline of entrepreneurs needed to support spin outs and startups. Professor Samsilah thought that Sandboxes for supporting innovation and regulatory development were a really important concept. Universities need to become Sandbox centres.

The panel was asked a question by a participant, how can the need for licensees to profit from a deal be reconciled with the university's needs? Tom responded that profit is a legitimate concern of companies. Universities need to accept that others will make most of the money from their research, and that this is vital for overall beneficial impact for the economy and society. Government policy makers, and university senior decision makers, need to understand that TTOs are unlikely to be self-financing, and should be funded and supported like any other vital function of a university. Another participant asked whether it is useful for universities to think about privatising their TTOs? Tom responded that it is really important that no attempt is made to privatise TTOs. Universities need to own their TTOs to retain control and ensure broader impact and public benefit. A privatised TTO would be likely to become too selective about the projects that it is prepared to support.



#### 4.2 What are the Key Opportunities and Actions on Developing Malaysian Legal Frameworks That We Want to Promote to Senior Leaders on Day 3?

The workshop again made use of the 4 breakout rooms to discuss the opportunities and actions that participants would want to promote to senior leaders at the follow-up Stakeholder Forum. The session was chaired by Dr Liz Bell. The key discussion points and feedback have been summarised below.

##### **General Issues:**

- Participants were really impressed by the new National Science, Technology and Innovation Policy 2021-2030, and the 10-10 MY MySTIE Framework. Very excited about the potential for the new collaborative platforms, Sandboxes and the TCA. For all this to work it needs to be very strongly connected to grassroots activities.
- So, the connectors issue is key. TTOs are vital connectors in the system to take these aspirations forward. TTOs should be central to the development and implementation of these policies/ frameworks.

##### **What Would We Like Policy Makers to Think About?**

- New Policy and 10:10 Framework need to be strongly connected with the on the ground activity of TTOs in their role as connectors.
- They also need to be able to rapidly evolve as innovation systems develop and technologies pose new challenges to regulators. For example, looking at the role of the specialist IP court in Malaysia and developing it to support the overall system.
- Better use of the existing/and evolving legislation and frameworks is key, not the frameworks themselves. Build capacity for people to skill up and engage.
- The Sandbox concept is just brilliant. Participants would like to see it quickly rolled out to many technological areas, and universities given the opportunities to act as hubs for it.
- TTOs are currently trying to operate within fairly rigid/bureaucratic university internal organisational frameworks. They need to be given direct access to top decision makers in the universities to authorise deals, e.g. not bogged down in dealing with general university legal departments.
- TTOs need to be internally resourced with all the expertise they need to do technology transfer transactions/deals. Need training and legal expertise within every TTO that can directly advise university senior decision makers in signing off deals.
- Lack of permanent employment contracts for TTO staff is a major problem which needs rapid fixing. Participants know that this is currently being addressed by Ministries and hope for resolution soon.
- There is an issue of alignment of policies and actions between MOSTI and MOHE. MOSTI controls the STI policy which should direct TTO activity, but MOHE is responsible for the resource funding and sets the reward structure. It needs to be clear how MOSTI and MOHE can work together to lead and support the role of university TTOs.

- An issue that definitely needs addressing to make the aspirations of the Policy and Framework work, are the metrics and incentives driving activities. MyRA KPIs focus on income generated by universities in technology transfer. KPIs need to focus instead on incentivising the broad spread of desired impacts, e.g. jobs created, transactions successfully transferring technologies to Malaysian industry, contribution to social and economic development goals etc. Measure real impacts not money.
- Consider training more staff in Ministries/Agencies in IP issues. May also be worth considering building a broad knowledge of IP issues into school curricula.
- It would be useful to consider setting up a coordinating group for implementation of all these things led by Chief Secretary of the Government.

#### **Possible Actions?**

- MOHE/MOSTI to work together to consider setting up a coordinating group led by the Chief Secretary of the Government. This needs to focus on developing a strong communications plan for the new policy/framework to all actors in the innovation system.
- MOSTI/MOHE to work together with universities to clarify how they will lead and support the work of university TTOs. Coordinate MOSTI defining policy for technology transfer clearly with MOHE funding/capacity building support/staff posts/metrics/incentives.
- MOSTI/MOHE to work together with university Vice Chancellors/Principals/ Presidents to enable TTOs to operate more flexibly within university organisational frameworks with direct access to the top decision makers.
- MOSTI/MOHE/MaGIC to work with university Vice Chancellors/Principals/ Presidents to create Sandbox hubs for many different technological sectors, and to facilitate TTO access to new collaborative platforms/TCA.
- MOSTI/MOHE to work with university Vice Chancellors/Principals/ Presidents to resource enough legal expertise in TTOs.
- MOHE/MOSTI to work with MyRA to review and redesign metrics to support the aspirations of the new Policy and Framework, steering it away from measuring income generation to broader impacts. Metrics to recognise that the really important role of universities is to create knowledge and transfer it to anyone who needs it.
- MOHE/MOSTI to think about ongoing development of enabling aspects of the legal system e.g. Patent Court issues.
- MOSTI/MOHE to work with MyIPO/ Attorney General's Chambers to develop short IP awareness training courses for Ministry/Agency staff.

## 5.0 Developing Capacity – Insight from Participants

Ant Parsons shared some of the outputs from the pre and post-workshop surveys which participants had completed which provided insight on potential areas for capacity development:

- 39 responses had been received from participants representing; Public University (46%), National Government (20%), National Agency (15%), Private University (13%), Industry (3%) and other organisations (3%).
- Participants had a range of roles; Technology Transfer Officers, Legal Advisors and management.
- Participants had a range of legal / IP background knowledge.
- 40% of participants spent between 20% and 60% of their time focused on technology transfer and research commercialisation.
- 37% of participants spent between more than 60% of their time focused on technology transfer and research commercialisation.

The survey had asked participants if there were any specific topics that they were keen to learn about from the workshop. There was a broad spread of responses:

- I'm new – everything!
- TECHNOLOGY READINESS LEVEL (TRL).
- IP Valuation, IP Commercial Brief & IP Monetization.
- Technology transfer governance.
- Protection of unregistered IP for commercialisation.
- Case studies from other countries on the Government's role in encouraging more technology transfer.
- How to negotiate and manage license agreements.
- Legal barriers in technology transfer management.
- Challenges in technology transfer during Covid-19.
- Protection of trade secrets for universities, especially when inventor(s) leave.
- How to license a company on managing confidential public health information.
- Technology transfer related to innovation in digital healthcare.
- How to identify the most suitable IP for each invention.
- Market study, validation, and linking university-industry.
- How to formulate a complete policy on IP and Commercialisation for a public university that promotes and supports research, but at the same time allows it to be translated into meaningful contributions to society and industry without going against the KPIs imposed by the Ministry, nor exposing the university to undue risks.

In the post workshop surveys participants were asked 'Has the workshop provided you with the knowledge or insight to do something different?'. After the first workshop 96% of participants said yes, after the second workshop 93% said yes.

## 6.0 Developing Malaysian Capacity in Higher Education Institutions and Research Institutes

Dr Liz Bell chaired the session which started with Tom Hockaday sharing his reflections on the topic from the first 2 workshops.

### 6.1 Reflections from Workshops 1 & 2

Tom Hockaday began by emphasising the importance of clarity in the purpose of the Technology Transfer Office (TTO). It is really important to write a purpose statement. The overall purpose of delivering impact from research, and the TTO purpose of developing and delivering a deal which can realise that impact. Tom reminded the workshop of how interconnected the topics of capacity building and the innovation community are, and that both need to be built together.

Tom noted that the main lesson from the UK over the past 20 years in innovation, is that it has gone on a journey from thinking it is about money to knowing that it is actually about impact. Malaysia is encountering a similar challenge in aligning targets and incentives to the real purpose of developing innovation. Policy makers need a very good answer for who is paying for the TTO, the UK has learnt that TTOs rarely cover their costs, and are generally a cost activity for universities. The real power of technology transfer is generating impact so the economy grows, universities making money is a secondary consideration. This needs to be reflected in performance management criteria which close the loop between achievements and expectations. Metrics drive the activities chosen, so government must measure universities in a different way. Focus on the area of doing deals, which are the actual technology transfer and evidence for it. Policy makers should also consider how the resourcing in TTOs is structured, experience from the UK shows that it tends to be spent on the earlier stages of the process, on identifying technologies and evaluating/protecting them. Much less is spent on the later vital stages of the process in marketing and deal making. A key point for capacity building is to bring people with business skills into TTOs to help with the deals.

Tom explained that a key lesson for TTOs in working with their innovation communities, is understanding who they do/don't know, and who they don't know that they need to know. It is really important for TTOs to build their networks before they try to push any technology transfer. Tom closed by complimenting the participants. They are doing technology transfer already, the innovation community needs to be strengthened, and there will always need to be further capacity development, but they are ready to go!

### 6.2 ITMA Initiatives

Professor Dr Samsilah Roslan, President of the Innovation and Technology Managers Association (ITMA) Malaysia, presented on their work to develop capacity. Professor Samsilah

highlighted that ITMA had now been in place for over 5 years, and that most of the key ingredients from successful knowledge transfer were now in place. However, there are a number of perceptions in the 'system' that are still acting as a barrier to success. For instance:

- Technology commercialisation should make money quickly for the university.
- You just need to get Researchers and Industry talking together and technology transfer will happen.

ITMA are trying to overcome these perceptions and support the critical role of the TTO.

Professor Samsilah emphasised that she agreed with the recommendations of the UK McMillan report about universities and technology transfer, the purpose for universities in engaging with technology transfer mustn't be for generating income. The emphasis needs to be on broader impact, with universities understanding that the big wins lie for them in related areas e.g. getting more collaborative research, jobs for their graduates etc. A huge challenge is in getting academics and industry to work together. Connectors/match makers are desperately needed. More facilitation in the innovation system is needed to address mismatched expectations, to think about the whole value chain and to promote seamless integration.

TTOs need a very broad range of skills, for example in business, psychology, technology and market readiness levels, IP management, route to market etc. ITMA has delivered on a range of influencing initiatives, training programmes, information and knowledge sharing, and reporting and advocating on impacts of technology transfer. ITMA developed the National Technology Venture Blueprint to enable TTOs to help their academics "flip" their technologies to make them relevant to industry.

Professor Samsilah closed by noting that the really big issue is retaining TTOs. ITMA is helping through providing training and working with ATTP to accredit TTOs. ITMA has also been working with WIPO to create a survey on national technology transfer metrics to explain to policy makers how to measure the real value of technology transfer. ITMA people are doing all of this on top of their normal university jobs, some extra resourcing for ITMA would help. She also commented that ITMA has discussed the issue of technology transfer professionals in universities with MOSTI. But the posts are under MOHE. Q schemes are preferred to N schemes, as the nature of Q schemes is that they can remain in one office, while N post has to move around different offices in their career path. ITMA has written to both MOSTI and MOHE on this. They are supportive, and suggest that respective universities take action by tweaking and restructuring their Q posts.

### 6.3 University Putra Malaysia Initiatives

Professor Dr Zahira Mohd Ishan, Deputy Director of Putra Science Park, shared her experience from the University Putra Malaysia (UPM). Professor Zahira described the fact that public university costs were increasing, but that student income (i.e. fees) was not. Without diminishing the priority of education, this was driving a search for additional income and a focus on cultivating innovation, particularly around agriculture. The key challenges are funding and managing risks.

Putra Science Park's innovation roadmap has commitment from the university and the researchers. Information is published on technologies that are available for transfer, and knowledge exchange is carried out with other research institutes and industry. 'InnoHub' has been established, a market validation hub which provides structured training programmes to develop 'Technopreneurs', space for start-up companies to grow and access to specialist facilities. An important focus is on community networking, initiatives including Innovation Open Days, billboard advertising, virtual exhibitions and a tourist attraction park showcasing the university. Tom commented that he thought these were very impressive ideas for reaching out to the community.

### 6.4 Institute of Medical Research Initiatives

Dr Ami Fazlin Syed Mohamad, Head of Herbal Medicine Research Centre at the Institute for Medical Research Malaysia, presented on capacity building from the six National Institutes of Health perspective. Established in 1900 to provide pathology services for Malaysia, the Institute for Medical Research (IMR) is now the research arm of the MOH. It has a vision to be a world-renowned institution for biomedical research. Its values are Deliver Share Connect. It focuses on rare diseases, environmental health, drug discovery, precision medicine, diagnostics, and disease prevention/control measures. The core of its work is research, training and consultation.

The IMR has over 300 researchers who are full government employees hired by the JPA (public service department) when they graduate with a 1<sup>st</sup> class honours degree. The researchers post-graduate study is usually sponsored by the government, but with a limited number of places each year, staff may need to wait years for their chance. This can be restrictive for staff development and capacity building at the IMR. The IMR is taking a number of steps to seek to improve capacity building:

- Research focus.
- Level of entry: with 2<sup>nd</sup> degrees (MSc and/or PhD).
- Collaborations: universities, industries (local, international).
- Other scholarships for studies.
- Obtain postdoctoral degrees while working on projects (local universities).
- Short term attachment for local / international exposure.



- *Latihan dalam Perkhidmatan* (training while in service.)
- Dual supervisors: Local and overseas.
- Options to attend international centre for a few months during the degree.
- Retain trained personnel from shared schemes (discussion with Head of Profession, Human Resources, JPA).
- Special career pathway for Medical Officers with PhD: Medical Research Specialists (in discussion).
- Alumni assistance: training, evaluation. Retired alumni are a great training resource to help others.

### 6.5 What are the Key Opportunities and Actions for Developing Capacity That We Want to Promote to Senior Leaders on Day 3?

The workshop again made use of the 4 breakout rooms to discuss the opportunities and actions that participants would want to promote to senior leaders at the follow-up Stakeholder Forum. The session was chaired by Ant Parsons. The key discussion points and feedback has been summarised below.

#### **General Issues:**

- TTOs are key to effective TT and engaging and developing innovation communities, they need to be invested in as a key enabler and a priority for capacity building.
- With the right TT people (IP, Legal, Business) we can drive the new Policy and Framework, especially the collaborative network platforms.

#### **What Would We Like Policy Makers to Think About?**

- The main issue is the temporary nature of TTO posts. People get trained/experienced and after a couple of years move on. So, there is too much need for constant training of new people. We know this is currently being addressed by Ministries and hope for resolution soon. Issues of Job Descriptions also need to be addressed.
- So current capacity building and training schemes need to be maintained and expanded, and TTO posts resourced and set up to be permanent jobs. Focus on retention and incentives for career growth.
- Capacity building programmes should be applied at all levels of any organisation undertaking technology transfer activities. Seniors and also juniors who do the actual work.
- We have identified some particular areas where additional training support is needed in TTOs. Skills that particularly need development are (1) IP protection, (2) negotiating deals, (3) preparing initial business cases to inform patenting decisions, (4) networking and associated event management. ITMA is an important partner for government in developing this provision.

- It would really help, as so many TTOs come from academic backgrounds, if IP training is made mandatory in all STEM degree programmes. Also, would be a big help to students who go on to be career researchers.
- There is currently very little training for the entrepreneurs being supported by TTOs.
- It is really important to support the deal making part of the process as this is the actual technology transfer bit of the process, and is often where resourcing is often neglected, with university resources being spent supporting earlier parts of the process such as IP protection. Staff drawn from academic and administrative backgrounds tend to struggle with this, Government should think about bringing in people with business skills to work in TTOs. TTO staff with strong legal IP skills needed too. The real challenge for many universities is to get the right support of business and legal expertise in assisting them with the deal making process. Perhaps MOSTI/MOHE could establish a pool of experienced deal makers to assist TTOs?
- Consider more general support for bringing in experts in various aspects into university technology transfer project teams, to hand hold the people in areas where they might need additional expertise/support. Enable scientists to fully engage in their technology transfer projects by sabbaticals/ secondments.
- Students are an under-utilised resource in facilitating technology transfer. They need to be supported to work on technology transfer projects between academia and business.
- Participants also liked the idea of creating mentoring programmes in all aspects of technology transfer for TTOs, academics, students, entrepreneurs etc. This is a really good way to share best practice and coach people.

#### **Possible Actions?**

- MOHE/MOSTI to consider creating a new coordinating Committee on Innovation and Commercialisation to coordinate their thinking and actions. The new committee should also work with JPA to solve the issues around TTO roles and permanence.
- MOSTI/MOHE to discuss with MIGHT, MyIPO and ITMA how to fund and support additional training programmes in the identified areas for TTO staff/entrepreneurs, and how to create and fund pools of experts in deal making, brokerage and other areas to support universities.
- MOHE/MOSTI and ITMA to consider how to develop programmes getting students more involved in technology transfer. Perhaps modelled on the UK Knowledge Transfer Partnership and Collaborative Awards in Science and Engineering schemes? They can help get technology transfer done, directly address the needs of companies and become the talent pipeline of people comfortable bridging academia and industry.
- MOHE/MOSTI/MIGHT/ITMA/MyIPO to discuss setting up and funding for mentoring schemes.
- MOHE/MOSTI/ITMA to work with university senior leaders to set up and fund sabbatical/secondment schemes for academics engaged in technology transfer projects.

- MOHE to work with MyIPO and ITMA to introduce IP training modules into all STEM courses. Also consider if awareness raising can be introduced into school curricula.

## 7.0 Developing the Innovation Community

Dr Liz Bell chaired the session which started with Mr Ahmad Razif Mohamad sharing the MIGHT perspective and his reflections on the topic from the first 2 workshops.

### 7.1 Reflections from Workshops 1 & 2 and a MIGHT Perspective

Mr Ahmad Razif Mohamad, Manager of the President & CEO's office at MIGHT, described his organisation's role and its part to play in delivering the ambition of Malaysia as a High Tech Nation. The overall vision is to support the SDGs for shared prosperity in a dignified nation. The focus is on Development for All, addressing health and income disparities, Sustainable Cities, the 4<sup>th</sup> Industrial Revolution, Foresight thinking etc.

Razif discussed how the global COVID-19 pandemic had accelerated existing disruption in traditional industries, and was creating the opportunity to rewrite entire sectors, redefine the problems they address, and reinvent their solutions. He highlighted 5 key trends that will define the post-pandemic future:

- Infection control.
- Remote working and commerce.
- Improving resilience.
- Increasing agility.
- Macroeconomic impacts.

MIGHT will be supporting the innovation community to embrace these trends, working together on the following initiatives:

- **Funding & Financials:** Ensure the necessary funding and financial mechanism to support the development and the deployment of the respective technology in the country.
- **Infrastructure & Institutions:** Identify the required infrastructure & institutions that will be needed and responsible for the development and deployment of the respective technology across the ecosystem.
- **Regulations & Policies:** Anticipate the governance necessary - regulations & policies that will ensure responsible development & uptake of the technology in Malaysia.
- **Skills & Talents:** Look at the human capital needs – the skills & talent required to ensure the technology development & deployment for the country.
- **Technology:** Systematic looking at the respective technology development & deployment will often require supporting technology ecosystem.

Razif finished by mentioning the MIGHT Matrix approach comprising financials, infrastructure, institutions, regulations, policies, skills, talent and technology. A way to understand who does what, together, to build an innovation community.

## 7.2 The World Bank ITEC Hub Model

Dr Stan Kowalski was asked to share his knowledge of the Innovation Technology Entrepreneurship Centre (ITEC) as a National Hub for Strategic Capacity Building. Stan began by noting that many countries are not yet running fast enough in technology transfer and developing their innovation communities. The reason that some countries like South Korea have become so successful, is their strategic investment in innovation to develop greater wealth. Malaysia can follow and become a high income country. The innovation development agenda is urgent and important, with the ever increasing speed of innovation making it harder to catch up.

Stan described the potential role of an ITEC to accelerate a country's innovation development in helping to build community, focus talent and resources, educate and cultivate a coherent and comprehensive set of best practices in IP management and technology transfer for Malaysia. He described how the ITEC hub model covers the 4 key aspects of capacity building:

- Human capital.
- Institutions.
- Institutional infrastructure.
- Global networks.

He reflected on the many discussions during the workshop on the importance of global community development and international partnerships.

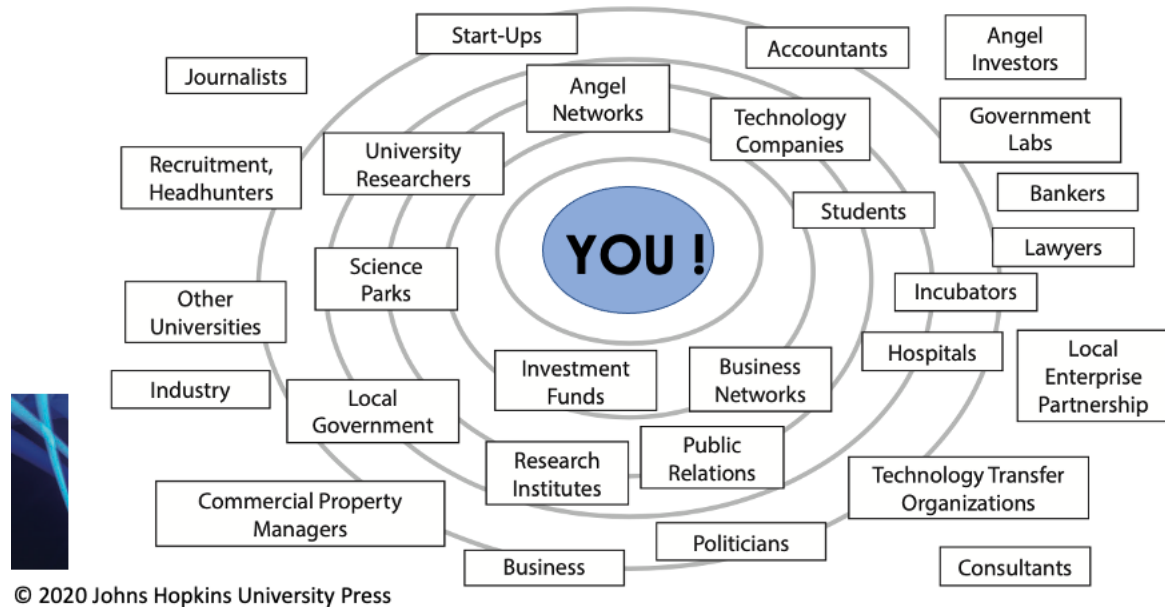
## 7.3 Open Innovation Communities, The McMillan Review and Public Benefit

Our last presentation of the workshop was given by Tom Hockaday who delivered three key messages which would set the foundations for the following group discussion.

He made the point that '**You are the centre of your innovation community**'. It is up to you to work out who is in your community, what they do, and why you should engage with them. Then you need to develop your own engagement plan. This needs to be done in a very systematic way and is a vital part of a TTO's job. He used a slide to illustrate this point which is shown as Figure 4 below.

Figure 4: Your Innovation Community (Tom Hockaday)

## Innovation Community



Tom's second key message emphasised two key findings in the McMillan Review:

- "Universities do technology transfer as part of their mission to deliver impact for society."
- "Technology transfer usually incurs a net cost for universities".

Tom made the case that universities need to understand these McMillan Review findings and support technology transfer activities as they do other core university activities.

Finally, Tom highlighted that 'Public benefit' was the primary reason for technology transfer, and that this should be described through a combination of numbers and narratives. Narrative approaches are particularly powerful as people love stories. Technology transfer impacts could be social, cultural, environmental and economic. He finished by emphasising the all-important role of holding networking events or parties to build innovation communities. In answer to a participant's question about if this might be expensive, he said that they can be held very cheaply. Also lawyers, banks, patent attorneys etc can sponsor events/parties. They like doing this, because they meet new clients. Tom noted that an ITEC National Hub could be a great focus for networking events.

#### 7.4 What are the Key Opportunities and Actions for Developing the Innovation Community that We Want to Promote to Senior Leaders on Day 3?

The workshop again made use of the 4 breakout rooms to discuss the opportunities and actions that participants would want to promote to senior leaders at the follow-up Stakeholder Forum. The session was chaired by Ant Parsons. The key discussion points and feedback has been summarised below.

##### **General Issues:**

- TTOs are key to effective technology transfer and engaging and developing innovation communities, they need to be invested in as a key enabler and a priority for capacity building.
- Technology transfer for impact for should be the main driver in the system, not income generation. Technology transfer from universities is of real benefit to businesses, economy and society, but always a net cost for universities. This needs to be recognised, supported and funded.

##### **What Would We Like Policy Makers to Think About?**

- Government needs to actively build innovation communities, internationally, nationally, regionally and around individual universities to enable technology transfer. Some big challenges here include getting university and business to work together and changing established mindsets.
- TTOs need support to map their relevant innovation communities, and contact and engage the partners they need. An important tool is networking events. These need to be resourced and TTOs trained to arrange them and make the most of them. Do we also need to consider if a new profession, Technology Transfer Broker is needed?
- A central resource for developing the innovation community is needed. WB ITEC Hub model to drive strategic policy development and provide supporting training and other programmes, was liked by participants, but needs further scoping to see if it is worth adopting for Malaysia.
- KPI metrics for TTOs really need to be addressed as these currently tend to incentivise income generation rather than measuring broader impacts. Metrics need to incentivise a broad range of engagements between universities, businesses etc.

##### **Possible Actions?**

- Role of ITMA as a champion for technology transfer is really important, it needs to be sustained and supported by all relevant Ministries.
- MOHE/MOSTI to consider creating a new coordinating Committee on Innovation and Commercialisation to coordinate their thinking and actions. This should advise on MyRA KPIs related to TTOs, working with the Research Committee at MOHE which currently advises on MyRA KPIs.
- MOSTI/MOHE to discuss with MIGHT, MyIPO and ITMA if supporting an ITEC Hub model might be appropriate for adaptation and adoption in Malaysia.



- MOSTI/MOHE/ITMA to discuss how targeted networking events might be supported to help drive interactions within innovation communities. ITMA collaborated with MIGHT for Asia Innovates 2019. MIGHT/ITMA could work together to set up a showcase networking event bringing their university researchers with technologies and potential partners/users together?
- In building innovation communities, it is useful to understand what different stakeholder's real needs are (business, government etc), and benchmark the value of universities to businesses etc. MOSTI and MOHE might consider undertaking research to clarify this?

## 8.0 Drawing Together the Key Messages for Policy Makers

Dr Liz Bell chaired the short final session giving participants a chance to contribute any final thoughts. She introduced Ms Biruntha Mooruthi, RTTP Chief Commercialisation UNITEN R&D Sdn Bhd and Mr Adrian Joseph, Executive Officer, Innohub, Putra Science Park, who had both kindly volunteered to report back on the key opportunities and actions from this workshop to policy makers attending the Stakeholder Forum and Roundtable Discussion on Thursday 21<sup>st</sup> January 2021. Biru would be presenting on Developing the Malaysian Legal Frameworks and Adrian on Developing Capacity and the Innovation Community. Liz thanked everyone for the amazing analysis of key issues and potential solutions that would feed into their presentations, and especially thanked Biru and Adrian for volunteering to take on the challenge of presenting our thoughts in such a short period of time. Both would be burning the midnight oil in preparing their powerpoint presentations!

Liz asked Professor Samsilah, Tom, Stan, Adrian and Biru for any final thoughts on their key take home messages. Professor Samsilah said that for her, it was the importance of; recognising TTOs properly in policies; permanent posts; the need for some sort of coordinating committee; and parties. For Stan, it was the importance of getting people excited with moonshot type approaches. NASA has a very active TTO, its critics who complained about wastage of public money on space “vanity” projects, long since confounded by the technologies that spun out of the programme and were adopted elsewhere. Technology adoptions that radically drove innovations elsewhere in the economy and society.

Tom emphasised that a key lesson is that technology transfer needs to be a proper job. Issues of permanence and job grading need to be urgently addressed. The key role being played by ITMA, a powerful self-support network, was also very clear. MIGHT is clearly another great power and network. Broadly it was possible to view ITMA as representing the sellers of technology, and MIGHT the buyers. So ITMA and MIGHT need to get together to hold joint events to “push and pull” people in different parts of innovation communities together.

Adrian noted the discussions about the strong need for a coordinating committee, and that Malaysia had delivered really good overall frameworks. Now supporting solid technology transfer is needed to make the framework and policy's vision a reality. TTOs and ITMA are key enablers for that. Biru observed that a big issue is how to connect all the dots and make the collaborative platforms work. TTOs are key enablers and need to be supported. A paradigm shift in the mindset's of everyone involved is needed.

Ant Parsons thanked all of the workshop participants and presenters on behalf of the British Council.

## 9.0 Workshop Feedback

Active and live feedback was encouraged by the project team throughout the workshop to ensure that all participants were getting value from the event. The feedback at the end of each day was excellent, and participants were very complimentary about the speakers and the knowledge shared.

At the end of the workshop participants were asked to complete a post-workshop survey to gain more feedback and inform future activities.

## 10.0 Conclusions

The workshop objective to reflect on the discussions from the first two workshops and prepare key messages for the Stakeholder Forum was clearly met. The interactive workshop style and group sessions also helped to further support the exchange of ideas, and to build understanding between professions and collaborations which will serve the technology transfer community well.

## Appendix 1: The Project Team

- Ant Parsons, *Director, ALP Synergy Ltd.*
- Dr Liz Bell, *Associate Director, ALP Synergy Ltd.*
- Yen Sim Kuek, *Head Newton Fund (Science and Research), British Council Malaysia.*
- Syauqi Azman, *British Council*
- Prabha Sundram, *Head Education, British Council Malaysia*
- Ahmad Razif Mohamad, *Manager at President and CEO's Office, Malaysian Industry Government Group for High Technology (MIGHT).*
- Professor Dr Samsilah Roslan, *President, Innovation Technology Managers Association (ITMA) Malaysia.*
- Mohammad, Idzaan Yazid (MIGHT)
- Tom Hockaday, *independent technology transfer and innovation consultant*
- Dr. Stan Kowalski, *Director of the International Technology Transfer Institute (ITTI) at the Franklin Pierce Center for Intellectual Property (IP) at the University of New Hampshire, Franklin Pierce School of Law.*

### Background to the ALP Synergy Ltd Team

ALP Synergy Ltd delivers innovation and collaboration to connect governments, researchers, businesses and wider stakeholders to help solve some of the world's most critical problems. We have worked with the governments in the UK, Malaysia and Ethiopia in the last 12 months on projects linked to science, technology, policy, evidence and sustainability. We have also worked closely with a range of universities, big businesses and the public sector on innovation and sustainability challenges, providing our customers with innovative and collaborative solutions.

Two of our team, Dr Liz Bell and Ant Parsons, were responsible for delivering one of the predecessor projects to this opportunity - The Newton-Ungku Omar Fund project with the British Council and the Malaysian Industry-Government Group for High Technology (MIGHT) in Malaysia: *Knowledge Exchange and Technology Transfer in Malaysia: Professional Development and Engagement on Governance, Regulatory and Policy Support.*

ALP Synergy Director, **Ant Parsons**, works on a range of projects across the research, technology, business and policy/impact landscape. Ant delivered the Science and Innovation Audit for Sustainable Airports (focussed on Heathrow, sponsored by the UK Government Department BEIS) in 2018, which explored research and innovation strengths to support place-based industrial strategy investment. Ant also leads exploitation on a Horizon 2020 project ([www.intcatch.eu](http://www.intcatch.eu)) where he is supporting technology development from TRL 5-8 and technology transfer into industry. Ant's current projects include: Delivering a water quality research project in India with the University of Warwick; and delivering business innovation, growth and peer to peer networking (online) support to targeted businesses across Oxfordshire in the UK.

Ant is an experienced workshop designer and facilitator and has delivered policy, training, stakeholder engagement and bid development workshops in the UK, Malaysia, United Arab Emirates, Ethiopia, Kazakhstan, Kenya, Indonesia and India.

Ant is trained and accredited in implementing the Alliance for Water Stewardship International Standard. He is an Associate Member of CIWEM & a Practitioner Member of the Institute of Environmental Management and Assessment (IEMA) with experience to become chartered when time allows. Ant has also been Prince 2 Practitioner, Managing Successful Programmes Practitioner and EFQM Leader for Excellence qualified.

Connect with Ant at: <https://www.linkedin.com/in/anthonyparsons/>

**Dr Liz Bell** (Associate Director ALP Synergy Ltd) is an education, research and innovation systems expert, with a BSc in biochemistry from Lancaster University, and an MSc and PhD in science and technology policy from Aston University Business School. At The Oxford Trust and Oxford Innovation Ltd, she led a Leverhulme funded research project resulting in recommendations for new policies, strategies and mechanisms to support the development of a local innovation system linking Oxfordshire universities, research and technology organisations, high technology companies and intermediary organisations. As part of this she designed and carried out one of the UK's first ever technology audits in Oxford Brookes University's Department of Biological and Medical Sciences, identifying many commercial opportunities, which became one of the case study examples used in the then Department of Trade and Industry's best practice guide for technology auditing.

Liz was then recruited as a British diplomat to lead the British Council's Science Team in Moscow for 5 years, working with the Russian Government to advise them on redesigning their research and innovation policies, and help them to take their first steps in building a new national innovation system including systems for innovation training. This involved co-creating an extensive portfolio of science policy and innovation development projects with the Russian Ministry for Industry, Science and Technology. The pilots covered diverse areas including: Publications such as a profile of Russian science and technology capabilities and another on Russia's innovation training needs; technology showcasing events resulting in commercialisation of Russian technologies in the UK; development of technology transfer offices and a UK Russia IPR information website; and design and delivery of high profile UK policy study tours for senior ministerial and other stakeholders in venture capital and nuclear waste management. Liz also engaged in science and innovation policy reviews with her ministerial contacts, making a substantial input, along with the results of the various pilot projects, to President Putin's 10 year Science and Innovation Plan for Russia. On her return from Russia she joined Brunel University where she conducted technology audits of their research assets, creating a pipeline for further research applications and technology transfer, restructured their patent portfolio and lectured on IP management.

Liz is also an expert in other aspects of the overall research, education and innovation sector in the UK and internationally. She worked in research and postgraduate funding for the ESRC (where she set up new innovation research programmes and a CASE studentship scheme, and managed their Knowledge Transfer Partnerships). At The Physiological Society she was a member of the Parliamentary and Scientific Committee (a cross party committee of the House

of Commons and House of Lords), and researched international research capacity building issues, her papers on which were shared with the World Bank and the House of Commons Select Committee on Science and Technology's Consultation on Science and International Development. At Janet UK she helped put together the policy and business case for Government to fund a new national ICT network for universities and other research organisations), and at UCAS she set up a new policy centre of excellence and was a member of the Welsh Government Working Group which designed and launched the new Welsh Baccalaureate. She recently worked with Queen Mary University of London to build and launch their new Institute of Bioengineering with key public research funders and industrial sponsors, and with the UK National Commission for UNESCO and the UK Government Department BEIS to design and launch the new high profile Newton Prize for international development as part of the Government's Newton Fund.

Liz's first major project with ALP Synergy Ltd was the Newton-Ungku Omar Fund project with the British Council and the Malaysian Industry-Government Group for High Technology (MIGHT) in Malaysia: *Knowledge Exchange and Technology Transfer in Malaysia: Professional Development and Engagement on Governance, Regulatory and Policy Support*. This project researched issues and gaps in Malaysia's national innovation system with a broad range of ministries, universities, companies and other stakeholders leading to a range of recommendations for action. Do contact Liz on <https://www.linkedin.com/in/doctorlizbell/>

**Tom Hockaday** is an independent technology transfer and innovation consultant with his business Technology Transfer Innovation. Tom is currently working with clients across the UK, Europe, Mexico and South Africa advising universities on Technology Transfer, Innovation and Proof-of-Concept Funds, and advising a number of Seed Investment Funds. Tom's book 'University Technology Transfer - What It Is and How to Do It' is now available. Tom is a member of the Investment Committee of the €32M BeAble Fund in Madrid, the €40M Progress Tech Transfer Fund in Milan, and Chair of the Investment Committee of the SA SME University Technology Fund in South Africa. Tom is on the Advisory Board of University Pompeu Fabra Ventures in Barcelona; the EIT Health InnoStars Advisory Board; the EIT Health Innovation Project review panel; and an honorary member of NetVal, the Italian University technology transfer network.

Tom was the CEO of Oxford University Innovation Ltd, the University of Oxford's Technology Transfer company from 2006 to March 2016 (formerly named Isis innovation Ltd). Whilst at Oxford University, Tom oversaw the expansion of Oxford University Innovation into one of the world's leading university technology commercialisation organisations. He led the international expansion of OUI including establishing offices in Hong Kong, and a number of joint ventures in China.

**Dr. Stan Kowalski** is the Director of the International Technology Transfer Institute (ITTI) at the Franklin Pierce Center for Intellectual Property (IP) at the University of New Hampshire, Franklin Pierce School of Law. ITTI's mission is to advance science, technology and innovation in developing countries via education, outreach and capacity building in IP management, technology-transfer and patent information analysis. Stan has worked extensively with

professionals to formulate strategies to build Technology Transfer Offices that will serve as hubs for advancing sustainable innovation-driven development. ITTI, usually in collaboration with WIPO and the World Bank, has contributed to IP capacity building in Algeria, Argentina, Armenia, Colombia, Italy, South Africa, Zimbabwe, the Philippines and Singapore. Before working in the field of IP and development, Dr. Kowalski was a scientist for over two decades, holding research positions at various institutions including the University of Rochester, the National University of Singapore, Texas A&M University and the USDA; his research was in the fields of biochemistry, genetics, crop science and entomology. Subsequently, as a management consultant at the International Service for the Acquisition of Agri-Biotech Applications (ISAAA) in the IP/technology-transfer initiative, he conducted the preliminary freedom-to-operate analysis of Golden Rice. Dr. Kowalski holds a Ph.D. in Plant Breeding from Cornell University and a J.D. from the Franklin Pierce Law Center.





## ALP Synergy Ltd

### Appendix 2: Workshop Attendees

No	Title	Name	Designation	Division	Organisation
1	Mr.	Mohamed Ikhwan Bin Shahdzul Bakri	Director	Business Development Division	MyIPO
2	Dr.	Mohd Khadri bin Shahr	Research Officer	Medical Entomology	Institute for Medical Research (IMR)
3	Mr.	Syed Ahmad Omar bin Syed Satri	Pegawai Tadbir (Undang-Undang)/Administrative Officer (Legal)	Legal Unit	Majlis Penasihat Undang-Undang Universiti Awam (MPUU)/Public Universities Legal Advisory Council
4	Puan	Hartini Alias	Research Officer	Innovation & Consultation Centre	Innovations & Commercialisation Office (ICO), Universiti Sains Malaysia (USM)
5	Mr	MOHD FADZIL BIN AHMAD	Legal Officer	Innovation & Consultation Centre	Innovations & Commercialisation Office (ICO), Universiti Sains Malaysia (USM)
6	Ms.	Surinder Singh	Legal		University of Nottingham, Malaysia Campus (UNMC) - UK5
7	Ms.	Biruntha Mooruthi	Chief Commercialisation Officer		UNITEN R&D Sdn Bhd
8	Mr.	Azri Bin Roslan	Assistant Director	Business Development Division	MyIPO
9	Assoc. Prof. Dr.	Zahira Mohd Ishan	Deputy Director		Putra Science Park, Universiti Putra Malaysia (UPM)
10	Mr.	Mohammad Irfan Mustaqim bin Awang	CEO		Patentsworth International Sdn Bhd

No	Title	Name	Designation	Division	Organisation
11	Ms.	Lee Ching Shya	Tech Transfer Officer (Business Development Officer)		University of Malaya Centre of Innovation and Commercialisation (UMCIC)
12	Pn.	Haslyna Hashim	General Counsel		Futurise
13	Prof. Ir. Dr.	Fatimah Ibrahim	Director		University of Malaya Centre of Innovation & Commercialisation (UMCIC)
14	Ms.	Zanariyah binti Ali	Head	Business Development Section	SIRIM
15	Dr.	Faizah Nazri binti Abd Rahman	Deputy Director		University of Malaya Centre of Innovation & Commercialisation (UMCIC)
16	Ms.	Najmu Fatihah	Legal Officer		University of Malaya Centre of Innovation & Commercialisation (UMCIC)
17	Puan Sri Dr.	Halila Faiza Binti Zainal Abidin	Principal Assistant Secretary	Commercialisation Division	Ministry of Science, Technology & Innovation (MOSTI)
18	Ms.	Wan Aminatul Afna Wan Mohammad Rawi	Assistant Registrar	Technology Transfer & Commercialisation (Life Science Division)	University of Malaya Centre of Innovation & Commercialisation (UMCIC)
19	Puan	Norliah Yaakub	Penasihat Undang-Undang/Legal Advisor	Legal Unit	Universiti Tun Hussein Onn Malaysia (UTHM)
20	Prof. Adjung (Adjunct Prof)	Azra'i Shu'ib	Head of Division	Technology Business Incubation, Commercialisation & Technopreneur Development	Technology Park Malaysia
21	Mr.	Mohamad Ameer Bukhqari bin Mohamad Nor	Senior Associate		Malaysian Technology Development Corporation (MTDC)

No	Title	Name	Designation	Division	Organisation
22	Ms.	Roslina Binti Ghazali	Ketua Pegawai Undang-Undang/Chief Legal Officer	Legal Unit	Majlis Penasihat Undang-Undang Universiti Awam (MPUU)/Public Universities Legal Advisory Council
23	Mr.	Yusrizam Sharifuddin	Technical and Programme Adviser		Industry & Community Engagement (UM ICE), University of Malaya
24	Ms.	Amyra Nadia Zolkifle	Legal Officer		Universiti Teknologi Petronas (UTP)
25	Ms.	Sherry Binti Sokmun			PlaTCOM Ventures Sdn. Bhd.
26	Mr	Adrian Joseph	CEO		InnoHub, Putra Science Park, UPM
27	Ms.	Sofia Adrianna Binti Ridhwan Lim	Senior Executive	Commercialisation Section	SIRIM
28	Mr	Syazwan Sharif.		Technology Transfer Office	Universiti Kebangsaan Malaysia (UKM)
29	Mr	Noor Affendy bin Mohamed Ali	Senior Manager	Technology Transfer Office	Universiti Teknologi Petronas
30	Assoc. Prof. Dr.	Noor Azurati Bt Ahmad @ Salleh	Director	Innovation & Commercialisation Centre (ICC)	Universiti Teknologi Malaysia (UTM)



# ALP Synergy Ltd

## Appendix 3: Workshop Agenda

Time	Session	Detail / Purpose
<b>Tuesday 19th January – Day 1: Developing the Malaysian Legal Frameworks</b>		
13:45	<b>Log in And Registration</b>	Ant Parsons and Dr Liz Bell – ALP Synergy Ltd Consultants on behalf of the British Council and MIGHT
14:00	<b>Welcome Address</b>	Welcome by Mr Ahmad Razif Mohamad (Manager of the President & CEO's Office, MIGHT)
14:05	<b>Workshop Overview and Day 1 Mission</b>	Ant Parsons – ALP Synergy Ltd Consultant on behalf of the British Council and MIGHT
14:15	<b>Introductions</b>	Chaired by Dr Liz Bell Consultant on behalf of the British Council and MIGHT  Each Workshop participant will open their microphone and introduce themselves and their role for 20 seconds.
14:35	<b>National Science, Technology and Innovation Policy (DSTIN) 2021-2030 and Malaysian Science, Technology, Innovation and Economy (MYSTIE) Framework</b>	Chaired by Ant Parsons – ALP Synergy Ltd Consultant on behalf of the British Council and MIGHT
	Presentations on National Science, Technology and Innovation Policy (DSTIN) 2021-2030	Dr Surinasiraj Binti Pakih Deputy Division Secretary, Strategic Planning Division, Ministry of Science, Technology and Innovation (MOSTI) (15 minutes)
	Presentation on 10-10 Malaysian Science,	Puan Hazami Habib CEO,

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	technology, Innovation and Economy (MySTIE) Framework.  Q&A Session	Academy of Sciences Malaysia (15 minutes)
15:25	<b>What new opportunities does the Policy 2021-2030 and MySTIE framework create?</b>  Group discussion  Feedback to plenary	Chaired by Dr Liz Bell – ALP Synergy Ltd Consultant on behalf of the British Council and MIGHT  4 breakout groups for 25 minutes  4 Groups feedback key opportunities for 3 minutes each.
16:10	<b>Tea &amp; Coffee Break</b>	
16:40	<b>The Opportunities Arising for Developing the Malaysian Legal Frameworks from Workshops 1 &amp; 2</b>  Q&A session	Chaired by Ant Parsons – ALP Synergy Ltd Consultants on behalf of the British Council and MIGHT  Panellists: <ul style="list-style-type: none"> <li>• Prof. Samsilah Roslan, President, ITMA</li> <li>• Dr Stan Kowalski, US expert</li> <li>• Tom Hockaday, UK expert</li> </ul>
17:30	<b>What are the key opportunities and actions on developing Malaysian Legal Frameworks that we want to promote to Senior Leaders on Day 3?</b>	Chaired by Dr Liz Bell – ALP Synergy Ltd Consultants on behalf of the British Council and MIGHT  4 breakout groups for 30 minutes.  4 Groups feedback key opportunities for 3 minutes each.  Plenary discussion to agree the key messages and context for Senior Leaders.
18:30	<b>Close Day 1</b>	Participant evaluation and feedback

**Wednesday 20<sup>th</sup> January – Day 2: Developing Capacity and the Innovation Community**

13:45	<b>Log in And Registration</b>	Ant Parsons and Dr Liz Bell Consultants on behalf of the British Council and MIGHT
14:00	<b>Welcome Back and the Day 2 Mission</b>	Ant Parsons Consultant on behalf of the British Council and MIGHT
14:10	<b>Insight from our Workshop Participants</b>  Feedback on 'capacity' from the participants survey  Q&A session	Ant Parsons (10 minutes) Consultant on behalf of the British Council and MIGHT
14:30	<b>Developing Malaysian Capacity in Higher Education Institutions and Research Institutes</b>  Reflections from Workshops 1 & 2  ITMA Initiatives  University Putra Malaysia Initiatives  Institute of Medical Research Initiatives  Q&A session	Chaired by Dr Liz Bell – ALP Synergy Ltd. Consultant on behalf of the British Council and MIGHT  Tom Hockaday (10 minutes)  Prof Dr Samsilah Roslan, President, Innovation and Technology Managers Association Malaysia (ITMA) (10 minutes)  Prof. Madya Dr Zahira Mohd Ishan, Deputy Director, Putra Science Park Office of Deputy Vice Chancellor (Research and Innovation). University Putra Malaysia (10 minutes)  Dr Ami Fazlin Binti Syed Mohamad, Head of Herbal Medicine Research Centre, Institute for Medical Research National Institutes of Health Malaysia (10 minutes)



15:15	<b>What are the key opportunities and actions for developing capacity that we want to promote to Senior Leaders on Day 3?</b>	<p>Chaired by Dr Ant Parsons – ALP Synergy Ltd Consultants on behalf of the British Council and MIGHT</p> <p>4 breakout groups for 30 minutes.</p> <p>4 Groups feedback key skills or knowledge gaps where action is needed for 3 minutes each.</p> <p>Plenary discussion to agree the key messages and context for Senior Leaders.</p>
16:10	<b>Tea &amp; Coffee Break</b>	
16:40	<p><b>Developing the Innovation Community</b></p> <p><b>Reflections from Workshops 1 &amp; 2 and a MIGHT Perspective</b></p> <p><b>The World Bank ITEC Hub Model</b></p> <p><b>Open Innovation Communities, The McMillan Review and Public Benefit</b></p>	<p>Chaired by Dr Liz Bell – ALP Synergy Ltd Consultant on behalf of the British Council and MIGHT</p> <p>Mr Ahmad Razif Mohamad, Manager, President &amp; CEO's office, Malaysian Industry-Government Group for High Technology (MIGHT) (10 minutes)</p> <p>Dr Stan Kowalski (10 minutes)</p> <p>Tom Hockaday (10 minutes)</p>
17:10	<b>What are the key opportunities and actions for developing the innovation community that we want to promote to Senior Leaders on Day 3?</b>	<p>Chaired by Ant Parsons – ALP Synergy Ltd Consultants on behalf of the British Council and MIGHT</p> <p>4 breakout groups for 30 minutes 4 Groups feedback key opportunities for 3 minutes each.</p> <p>Plenary discussion to agree the key messages and context for Senior Leaders.</p>

18:10	<b>Final Drawing Together of Our Key Messages from the Last Two Days for Policy Makers?</b>	Chaired by Dr Liz Bell – ALP Synergy Ltd Consultant on behalf of the British Council and MIGHT
18:30	<b>Participant Feedback</b>  <b>Closing</b>	Ant Parsons  Prabha Sundram Head Education, Malaysia, British Council