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TRANSLATING DEEP TECH IN SINGAPORE

FROM RESEARCH TO COMMERCIAL OUTCOMES

Before World Cup 2018 recedes into the deeper recesses of our consciousness, it is opportune to use soccer as an analogy to reflect on what it will take for Team Singapore to succeed.

Team Singapore, comprising government agencies, institutes of higher learning (IHLs), research institutes (RIs) and industry partners, is currently enrolled in a “Game of Translation for Deep-Tech” – driving deep tech research towards commercial success. Members of Team Singapore are mostly well-funded and skilful. In fact, Singapore ranks fifth in the 2018 Global Innovation Index. However, as we witnessed in the World Cup, skilful teams such as Germany and Brazil did not necessarily emerge victorious.

Our game plan, formulated by the Committee on the Future Economy and accompanied by the various Industry Transformation Maps, lays a very good foundation. To “score” better, it is imperative for Team Singapore to be flexible, leaning forward and reaching back, and be street smart in the field.

In the context of R&D, the Holy Grail is commercial success. But how do we grow our soccer team’s “strikers” to achieve this?

For deep tech to move from research to commercial output, it generally faces three obstacles: long time-to-market, high capital requirement and technical complexity. These can be challenging for start-ups to overcome, unless they are strongly backed. Even bigger SMEs and large local corporations will face trouble with bolting-on new deep tech. This is likely due to being fixated on their core businesses, a lack of technical and business expertise, or inadequate investment capacity.

Team Singapore can lower its adoption risks by translating deep tech into a more commercial-ready stage in the RIs or IHLs. Integrated translation teams of engineers and scientists can be formed to achieve this outcome. In this way, clear market potential and full-scale development risk can be better assessed.

Furthermore, newer fields such as quantum technologies, 2D materials, medtech and biotech may face difficulties in being adopted by local enterprises. In such an instance, a case can be made for a Venture Builder Platform (VBP) to nurture and grow new deep tech companies for Singapore, akin to training a new striker type. The VBP differs from existing investment funds in that it is active and assumes management control.

With their deep capital and long-term outlook, VBPs can also aggregate talents, capabilities and start-ups on a portfolio basis for each deep tech class in order to accelerate scaling and sustainability. The ultimate goal of VBPs is to build new, deep tech companies anchored in Singapore, especially home-grown companies.

In conclusion, Team Singapore has been investing heavily in R&D, and it is timely to anchor successful research outcomes here for a greater share of the returns. In addition to existing government schemes, Singapore can increase its success rate by working towards building deep tech to reach higher commercial readiness and setting up VBPs to facilitate this process.

Team Singapore will need to shift beyond expecting industry partners to have their “skins in the game” or leaving it to market forces to drive action in translating deep tech to commercially-viable solutions and applications. Otherwise, it may risk leaving good R&D outcomes stranded on the shelf, unable to cross the valley of death and ending up being exploited elsewhere.

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