

ODA statement

Fifty word compliance statement: We will work with Thai businesses and organisations to increase their productivity by providing research and training in high-technology skills. This will help to address a skills gap which has been identified as a major barrier to Thailand progressing to an upper-income economy.

With a per capita GDP of 5,907 USD in 2016 (*Data:* World Bank), Thailand falls firmly within the OECD's DAC list of upper middle income economies. Like most such economies, Thailand has already successfully overcome many of the greatest problems of developing countries, such as basic infrastructure development. Instead, the primary economic challenge that Thailand now faces is to transition from a middle to a high-income economy. Making this transition has proven extremely difficult for many other developing economies, with some remaining stuck in the so-called "middle-income trap" for decades (Agenor & Canuto, 2012). Avoiding this trap is crucial if Thailand's recent strong economic growth is to be sustained over the long term.

The detailed causes and means of avoidance of the middle income trap are complex and subject to debate. However, a common theme among countries that have transitioned from middle to high-income economies during the past 50 years is a sustained increase in productivity (i.e., economic output per hour worked; Aiyar et al, 2013). In recent years it has been recognised that one of the most effective means of increasing productivity is via the scientific analysis of digital data to identify trends in, for example, customer information, patient medical records, distribution networks etc. (Bakhshi & Mateos-Garcia, 2012). There is clear evidence, therefore, that providing Thai businesses and organisations access to the skills needed to handle and analyse large digital datasets will assist Thailand's transition to a high-income economy. This is even more pertinent in the regions outside Bangkok which have traditionally suffered from slower rates of growth (World Bank, 2017), possibly due to poorer access to high-tech skills.

Our team's long-term ambition is to provide Thailand's businesses and organisations with home-grown talent in handling and analysing large quantities of digital data. Ultimately, we wish to establish Mae Fah Luang University – the Thai PI institute – as a self-sustaining hub for data science research and innovation within Northern Thailand, which is a region that has experienced some of the weakest economic growth compared to the rest of the country (World Bank, 2017). As our Letters of Support demonstrate, businesses and organisations across Thailand are crying-out for access to the data handling and analysis skills and technologies that our team have demonstrated we can provide during our GCRF Foundation Award. If this demand is not met locally, there is the risk that they and others like them will seek these skills from companies not based in Thailand, to the detriment of the local economy.

Our first step in achieving our long-term goal has been to give Thai data scientists and their students experience in handling and analysing large, frequently-updated digital datasets of the kind produced by modern industries. This need was met through our Newton-funded project which gave the Thai team members access to large amounts of astronomical data. To date, this has been extremely successful; not only have the students acquired valuable training in "Big Data" analysis (as planned) but the team has also developed novel data handling and analysis technologies to overcome some of the challenges presented by this type of data; see our Case for Support. Our GCRF Foundation Award enabled our team to gain experience of working with external partners, which is already having a real economic impact on parties external to our team. We now request funding to support work with a larger, more diverse range of businesses and organisations. This will give our team the experience necessary to reach our ultimate goal: to set up a self-sustaining "Centre of Excellence" for researching technologies to meet the data handling and analysis needs of businesses and organisations across Thailand.

References Agenor & Canuto, 2012, Middle-Income Growth Traps. Policy Research working paper;no. 6210. World Bank, Washington, DC. World Bank. <https://openknowledge.worldbank.org/handle/10986/12004> License: CC BY 3.0 IGO.; Ayar et al, 2013, Growth Slowdowns and the Middle-Income Trap, IMF Working Paper 13/71; Bakhshi & Mateos-Garcia, 2012, The Rise of the Datavores, www.nesta.org.uk/sites/default/files/rise_of_the_datavores.pdf; World Bank, 2017, "The World Bank in Thailand", <http://www.worldbank.org/en/country/thailand/overview#1>