Submission by

to the

Ministry of Business, Innovation and Employment

on the

Advanced Manufacturing
Draft Industry Transformation Plan

22nd July 2022

1.0 INTRODUCTION

1.1 Manufacturing New Zealand and Business New Zealand (ManufacturingNZ/ BusinessNZ) welcome the opportunity to comment on the Advanced Manufacturing Draft Industry Transformation Plan (the ITP). In addition to the information about ManufacturingNZ and BusinessNZ at the end of this submission, we also have a Chief Technology Officers Group. This group consists of the CTOs of twenty of New Zealand's leading firms that invest the most in research and development in New Zealand.

1.2 ManufacturingNZ and BusinessNZ support the goal of the Ministry of Business, Innovation and Employment (MBIE) to grow and transform sectors of the economy where we have a global competitive advantage through ITPs. This submission will focus on the following areas of action that have been identified by the steering group:

- *making innovation, R&D, and science work for advanced manufacturing,*
- *attracting and developing a diverse high skilled and high-wage workforce,*
- *enhancing global connectivity and opportunities.*

2.0 MAKING INNOVATION, R&D AND SCIENCE WORK FOR ADVANCED MANUFACTURING

2.1 In the draft report, initiative six states that an objective is to *"improve visibility across the sector of current ecosystems of support and improve connections and coordination."* While this would be a useful tool for Advanced Manufacturers to have, ManufacturingNZ/BusinessNZ would like to see changes within the current support ecosystem to ensure that the support that is mapped out is fit for purpose and helpful to business.

2.2 **ManufacturingNZ/BusinessNZ is cautious to support the creation of an *Aotearoa New Zealand Centre for Advanced Manufacturing Excellence.*** ManufacturingNZ/BusinessNZ believes that there is scope, currently, for the Government to work alongside existing industry representatives and groups who are already tapped into their industries and the wider business ecosystems for the same purpose as a Centre of Excellence.

2.3 There are already several entities in the ecosystem that provide similar offerings and functions for the industry that the Centre of Excellence intends to cover. It would also take a significant investment of public money to build up the Centre to a point where it is a well-known and trusted entity within the sector when there are already well-established groups present.

2.4 The performance of the New Zealand innovation ecosystem is notably weaker than other small and advanced economies in several measures. New Zealand's expenditure on Research and Development (R&D) is well below the OECD average. While investment and participation in R&D are increasing, three-quarters of the funding for business R&D came from within the business itself. The feedback we have had from businesses is that the R&D tax credit settings are difficult for businesses to engage with without requiring assistance from a costly consulting firm which is a barrier to SMEs accessing the benefits of the tax credit system. Furthermore, businesses have found that emphasis is placed on the research aspect and less on development. **ManufacturingNZ/BusinessNZ advocates that more support from Government to incentivise R&D investment would ensure that high-value jobs are created.**

2.5 Crown Research Institutes (CRIs) and Universities are not easy for the business community to work with. For example, the funding model for Universities incentivises research and publication in academic journals. Academics are rewarded for publishing, but publishing can be at odds with the protection of intellectual property (IP) which needs to be kept secret until properly protected. Furthermore, businesses can find collaborating with academics difficult because the latter are primarily focused on teaching and publishing, so the work cannot always be done promptly. Academics are not incentivised or rewarded for working with businesses and cannot easily move between academia and industry. **ManufacturingNZ/ BusinessNZ recommends that policy should be implemented to provide career pathways and latitude for academics to go between industry and academia more fluidly, as happens in Europe.**

2.6 Furthermore, there should be incentives, other than publishing, for academics to be rewarded for contributions to R&D that are more conducive to the needs of industry. **ManufacturingNZ/BusinessNZ recommends a funding strategy where revenue from commercialised intellectual property stays with the owner of the IP.** A system such as this would provide a strong incentive and would reward successful research and innovation programmes with more funding to continue their work or valuable IP they can sell to the private sector for commercialisation.

2.7 To ensure that businesses are encouraged to invest in innovative technologies and R&D, **ManufacturingNZ/BusinessNZ advocates for greater support for capital investment in innovative technologies** via initiatives such as; accelerated depreciation, investment attraction advice, investor matching, and investment loans where the business case stacks up.

3.0 ATTRACTING AND DEVELOPING A DIVERSE HIGH SKILLED AND HIGH-WAGE WORKFORCE

3.1 ManufacturingNZ/BusinessNZ is supportive of the digital skill shift pilot programme as well as foundational skills training for all workers to increase the skills of workers to ensure they are suitably trained to utilise new technology implemented at their workplace. This ITP and the skills development programme must work hand-in-hand with the soon-to-be-released Digital ITP and ensure that New Zealand is not creating new silos within relevant bodies of work.

3.2 ManufacturingNZ/BusinessNZ is supportive of the government's support of trades training. Apprenticeship and trades training support has helped firms get the skills they need. The investment the Government has made in apprenticeships and trades training has allowed businesses and education providers to work together to find ways to boost the skills development New Zealand needs. Being able to get the people and skills they need to thrive is critical for advancing our manufacturing sector. **ManufacturingNZ/ BusinessNZ endorses making the Apprenticeship Boost programme a permanent policy and the reinstatement of the Targeted Training and Apprenticeship Fund (TTAF) to support upskilling on the job.**

3.3 **ManufacturingNZ/BusinessNZ advocates for a high-quality education system that provides opportunities to young people and supplies the business community with the skills and talents necessary to grow and prosper.** To have a workforce that can adapt to the future of work, we need to have a robust foundational education. A report by the Tertiary Education Commission (TEC) found that about 40 per cent of people in the workforce do not have sufficient literacy and numeracy skills to function well in a knowledge society and information economy. Workforce literacy and numeracy urgently need to be improved as over a million people do not have the skills needed to participate fully in working life. Poor literacy and numeracy skills are reflected in risks, errors, and accidents in the workplace, and contribute to low productivity. The feedback we get from businesses is that they can often not find the talent and skills needed to fill specialised roles. **ManufacturingNZ/BusinessNZ would like MBIE to investigate ways to improve the uptake of the TEC's workplace literacy and numeracy fund in the manufacturing sector.**

3.4 High qualification attainment rates do not necessarily relate to skill or educational attainment levels. NCEA is undergoing literacy and numeracy reform following the research (noted above) demonstrating that 40 per cent of those that achieve NCEA level 2 do not have literacy and numeracy skills at a desirable level.

3.5 Further, the Productivity Commission's education section on technological change and the future of work noted that "*There is consistent evidence that the [education] system is not performing well in developing core skills for learners or in addressing the persistent long tail of underachievement between the highest and lowest performing students*" and "*there is evidence of declining achievement in core skills areas of reading, mathematics and science over the last decade*". The significant reform programme currently being undertaken in vocational education (RoVE) also signals that major improvements are needed in the way New Zealand upskills the workforce, particularly those in work.

3.6 It is important to note that skills action plans are contingent on the effective implementation of RoVE reforms. There is a significant risk of skills disruptions and potential negative impacts on skills actions if RoVE fails to achieve better outcomes for the vocational education sector.

3.7 There could also be improvements to the relationships between the public research institutes and private businesses to encourage flows of talent and expertise between the public and private sectors. But we acknowledge that both sides need to get the incentives right to encourage talent flows. As commented on above, current incentives are not conducive to business interests as academics are rewarded career-wise for staying within the University system and their private sector experience is not recognised. This is not the case in Europe and as a result, there is better interaction between industry and research organisations in countries like Germany, Denmark, and the Netherlands. Furthermore, academics are rewarded for publishing their IP, which is at odds with the objectives of a private sector business. **ManufacturingNZ/BusinessNZ recommends the Government investigate how to better support the flow of talent and information between academics and businesses as current incentives are not conducive to business interests.**

3.8 ManufacturingNZ/BusinessNZ believes a secondment programme could be of real benefit to both institutions and businesses. This kind of programme could help CRI researchers and staff gain effective business experience in a short amount of time, help them understand a business mindset, and help the sector work more efficiently with businesses.

3.9 Like many industries, Advanced Manufacturing requires a mixture of talent trained in NZ and talent brought in through the immigration system. New Zealand's immigration settings must be attractive in a global competition for talent, including straightforward pathways to residency and family settlement. Talent brought in through immigration enriches the Manufacturing ecosystem through the diffusion of knowledge and helps firms increase their global connectivity. **ManufacturingNZ/BusinessNZ advocates for simple, open and permissive immigration settings that enable firms to recruit internationally. This includes**

improvements to onerous labour market tests as part of AEWV, identifying occupations that need to be on the green list for manufacturing.

4.0 ENHANCING GLOBAL CONNECTIVITY AND OPPORTUNITIES

4.1 ManufacturingNZ/BusinessNZ believes that global connectivity is crucial in supporting a thriving advanced manufacturing sector and is supportive of a study of how global connections, including immigration, investment, and offshore experience can assist the skills development of workers and competitiveness of New Zealand's Advanced Manufacturing. Government policy should proactively target multinationals that will lift the capability of other firms and increase innovation diffusion.

4.2 Given New Zealand's distance from markets and customers, New Zealand's 'attraction' policy should focus on areas where the country has a natural competitive advantage, - the future of food, weightless exports, such as R&D and IP creation, or investment in high-tech areas compatible with a large land mass and small population, e.g., autonomous vehicle testing and rocket launching.

4.3 To attract more multinational companies (MNCs), the government should look at removing barriers to good foreign direct investment. Every country should be concerned about the quality of the foreign investment in their respective countries; however, this should be managed by foreign investors having to abide by the same regulations as domestic investors. New Zealand is currently ranked 34/34 in the OECD Product Market Regulation Indicators for Regulation of FDI. Foreign Direct Investment (FDI) and international connections have played a critical role in the growth of New Zealand's innovation. Access to parent company knowledge and resources, technology and international networks have facilitated the growth of more productive firms and has also helped to develop New Zealand's skilled workforce through the diffusion of skilled workers. **ManufacturingNZ/BusinessNZ advocates for policy that can attract large MNCs to New Zealand and show that New Zealand is an attractive place for MNCs to do business.**

4.4 **ManufacturingNZ/BusinessNZ recommends making the barriers to overseas investment, particularly concerning the purchase or lease of "sensitive land," more permissive.** For example, the current definition is anything over 5ha, which is small enough to include many manufacturing campuses. The more barriers there are to investment, the harder it is for businesses to grow. The risks of leasing or selling sensitive land to an overseas investor are no greater than leasing or selling the land to a domestic investor, given both are subject to the same regulatory safeguards; policy should reflect this position. What is important is that the investment should result in the creation of highly paid jobs.

4.5 Management talent is often developed in large multinational firms. Often, this management talent then develops their own ideas and innovations which then become the next generation of manufacturers. However, New Zealand has very few large firms which can act as incubators for new ideas and innovation or give employees the experience of working in a large innovative firm.

4.6 As a workaround to this issue, **ManufacturingNZ/BusinessNZ believes a possible solution could be a trade mission programme focused on exposing New Zealand's manufacturing talent to the latest technology and management strategies around the world**. A programme like this would help leaders and emerging leaders learn from the best overseas and bring those ideas and ways of working back to New Zealand.

ABOUT BUSINESSNZ

The BusinessNZ Network is New Zealand's largest business organisation, representing:

- Business groups EMA, Business Central, Canterbury Employers' Chamber of Commerce, and Business South.
- BusinessNZ policy and advocacy services.
- Major Companies Group of New Zealand's largest businesses.
- Gold Group of medium-sized businesses.
- Affiliated Industries Group of national industry associations.
- ExportNZ representing New Zealand exporting enterprises.
- ManufacturingNZ representing New Zealand manufacturing enterprises.
- Sustainable Business Council of enterprises leading sustainable business practice.
- BusinessNZ Energy Council of enterprises leading sustainable energy production and use.
- Buy NZ Made representing producers, retailers and consumers of New Zealand-made goods.

The BusinessNZ Network is able to tap into the views of over 76,000 employers and businesses, ranging from the smallest to the largest and reflecting the make-up of the New Zealand economy.

The BusinessNZ Network contributes to Government, tripartite working parties and international bodies including the International Labour Organisation (ILO), the International Organisation of Employers (IOE) and Business at OECD (BIAC).