Submission by

LocationTech+

to the

Ministry of Business Innovation and Employment

on the

Advanced Manufacturing Industry Transformation Plan

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LocationTech Submission – Advanced Manufacturing Transformation Plan

SUMMARY:

1. LocationTech thanks the Ministry for Business, Innovation and Employment (MBIE) for the opportunity to submit on the Advanced Manufacturing Draft Industry Transformation Plan. This submission is in response Priority Two, increasing investment in advanced technologies and processes to lift productivity and wages, as well as Priority Five, creating a leading sustainable circular net-zero emissions sector.

2. LocationTech was not involved in the in-person or online workshops and as such feels the ITP probably reflects the needs and understanding of current manufacturers quite well, but does not appear to take into account more emergent opportunities with the same level of depth. For example bringing in advanced end of digital manufacturing bringing AIoT and location intelligence into the mix faster. We acknowledge that the Digital ITP was identified in the draft documents as a critical enabler, and as such, would recommend a better connection between these two ITP's at a broader level than the MBIE policy teams.

3. LocationTech is happy to engage further with MBIE to discuss our submission in detail and provide further assistance as part of developing the ITP.

BACKGROUND:

4. LocationTech is a member of the New Zealand Tech Alliance. The Tech Alliance is a group of independent technology associations from across New Zealand, that work together with a common purpose to connect, promote, and advance technology ecosystems in New Zealand to create a prosperous digital nation.

5. LocationTech is an association of organisations and individuals that represent the industries that utilise location (spatial) technology and intelligence. Our missions is to develop a strong voice for location technology, to ensure the industry and government are aware and ready to adapt and take advantage of new technological opportunities that are enabled by location technology.

COMMENT:

6. Many LocationTech members already play a role in the digitisation of manufacturing, such as IoT capturing data through manufacturing processes, the platforms that enable cloud access, the network infrastructures that move the information around effectively, and multiple software and app developments firms that are already developing tools across the manufacturing ecosystem, as well as developing digital twins of manufacturing facilities, developing security, and health and safety tracking tools, as well as transport and supply chain logistics.

7. Given the scale and importance of manufacturing for the New Zealand economy, we endorse the need for an Advanced Manufacturing ITP. However, we wish to reinforce that the role of digital and other tech is so intertwined with the successful transformation of the manufacturing sector that we wish to better connect the two ITPs.

8. LocationTech support Priority Two, for increasing investment in advanced technologies and processes to lift productivity and wages, as well as Priority Five, for creating a leading sustainable circular net-zero emissions sector

Priorities Identified in the draft ITP:

9. Improving the understanding of advanced manufacturing will be critical for technology uptake and appropriate policy support. However, we feel the ITP is heavily focused on incremental improvement of a large number of traditional manufacturers and misses the opportunity to also raise understanding and perception of new manufacturing opportunities, such as the importance of location intelligence for health and safety of workers as well as supply chain and transport logistics. We recommend having at least an acknowledgement of raising understanding of emergent manufacturing opportunities as well in this section.

10. Increasing investment is also very focused on small incremental improvements across a large traditional manufacturing base. There should be an acknowledgement that increasing investment for firms engaged in emerging tech for manufacturing is also important - the Government could point to initiatives such as the new Trailblazer Grant and undertake some education with firms on how to ensure they are aware of the opportunities for platform type projects.

11. Making the RSI system work for manufacturing is important as are proposed initiatives around strengthening the advanced manufacturing ecosystem. However, we caution against a government agency establishing new association groups separate from industry work already in this space. We endorse working closely with the leading industry groups in this space, such as BusinessNZ/ManufacturingNZ and NZTech and the wider Tech Alliance collaborating together on a single connected ecosystem, rather than fragmented efforts.

12. Attracting and developing high-skilled high-wage workforce will require strong collaboration between the education system and industry. Given many of the skill opportunities will emerge in the digital skills space, we recommend explicitly acknowledging the importance of connection with the significant amount of digital skills and attracting diversity with the focus currently being something the Manufacturing WDC and the education system will solve. This priority should be integrated with the Digital Skills work of the Digital ITP and the work of our parent organisation, NZTech, IT Professionals and Toi Mai WDC, who are already collaborating on digital workforce planning, upskilling, reskilling, new earn to learn pathways and attracting more diversity into the digital workforce.

13. Creating a sustainable circular net-zero emissions sector will require considerable investments in data, digital and other technologies. For some high-emitters, a biotech approach may be required in the long run. We recommend at least acknowledging the aspirations of a net-zero sustainable sector further reinforce the importance of a digital and technology transformation across the sector. Using sustainability and threat of emission costs as a key driver for encouraging manufacturers to lean into technologies to help them transform faster.

14. Enhancing global connections is also important, but again it is only being seen as a manufacturing led perspective. There are also opportunities to work close with the tech sector and take a technological lens. For example, making connections across the global tech ecosystem with innovators and developers of tech for sustainability, advanced manufacturing, AIoT etc.

15. In summary, the ITP priorities are well thought, thorough and valuable. However, we would recommend that each priority looks beyond a pure focus on traditional manufacturing, and more explicitly acknowledges the critical inter-dependence of the digital ITP, especially around areas such as skills.

Use-Cases of Emerging Technology:

16. As digital transformation is shifting every industry, there is a need for a data strategy to allow for shared infrastructure and services, a connected and just-in-time supply chain, a transparent Goods and Import Status, automation, predictive maintenance and repair of assets, AI for safety and security. A data strategy for Advanced Manufacturing can also assists in lowering the logistic costs for businesses and consumers, and would allow to a larger pool of required schools and provision of jobs, and would significantly lesson time and efforts for freight forwarding.

17. Large scale track and trace IoT deployments have also been proved to be an effective strategy to manage large volumes of moving assets, which demand accurate, timely data providing location and condition information to avoid delays, waste and operational issues. This asset data from large scale IoT enabled track and trace solutions, is essential for operations to see everything, do less, know more, and ultimately deliver better customer experience. With the use of IoT track and trace devices they can connect to physical assets to the digital world, providing a range of data points including GPS location, Wi-Fi based location, tamper detection, temperature and humidity.

18. However, there is another important aspect to the Advanced Manufacturing ITP that appears to not be as significant, which is health and safety of workers. While we place a lot of focus on placing measures to increase efficiency, productivity and wages, are we considering the potential trade-off of safety? As an example, it has been found that, while there are measures to ensure machines do not exit their allocated areas of operation, there is very limited interventions for a person to enter an area occupied by operational machinery or vehicles.

19. With the growing interest for use-cases with Industry 4.0 and the implementation of IoT alongside other innovative tech including 5G connectivity, AI, augmented reality, digital twins, autonomous vehicles etc, there is an aspect to technology enablement that can be implemented to ensure health and safety of workers as well as further advance how manufacturing facilities function.

20. Use cases should include utilising lone worker tracking, where a combination of wearable mobile devices, 5G, IoT, location intelligent technology, and computer vision to track and monitor their health and safety, to provide a regular ‘heartbeat’ communication back to Control to detect falls, as well as have accountability for everyone in the event of an evacuation with the use of IoT tracking tags on all staff and visitors could well improve the well-being of all staff within a manufacturing facility and ensure their safety and security.

21. Large scale track and trace IoT deployments have also been proved to be an effective strategy to manage large volumes of moving assets, which demand accurate, timely data providing location and condition information to avoid delays, waste and operational issues. This asset data from large scale IoT enabled track and trace solutions, is essential for operations to see everything, do less, know more, and ultimately deliver better customer experience. With the use of IoT track and trace devices they can connect to physical assets to the digital world, providing a range of data points including GPS location, Wi-Fi based location, tamper detection, temperature and humidity.

CONCLUSION:

22. We thank MBIE for the opportunity to submit and provide feedback on the Advanced Manufacturing Industry Transformation Plan. LocationTech is happy to engage further to discuss our submission and provide any further assistance to the development of the ITP and Action Plan.

23. If you have any further queries, please do not hesitate to contact me or our team.

Yours sincerely,

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