

DigiTOP: Digital Toolkit for optimisation of operators and technology in manufacturing partnerships

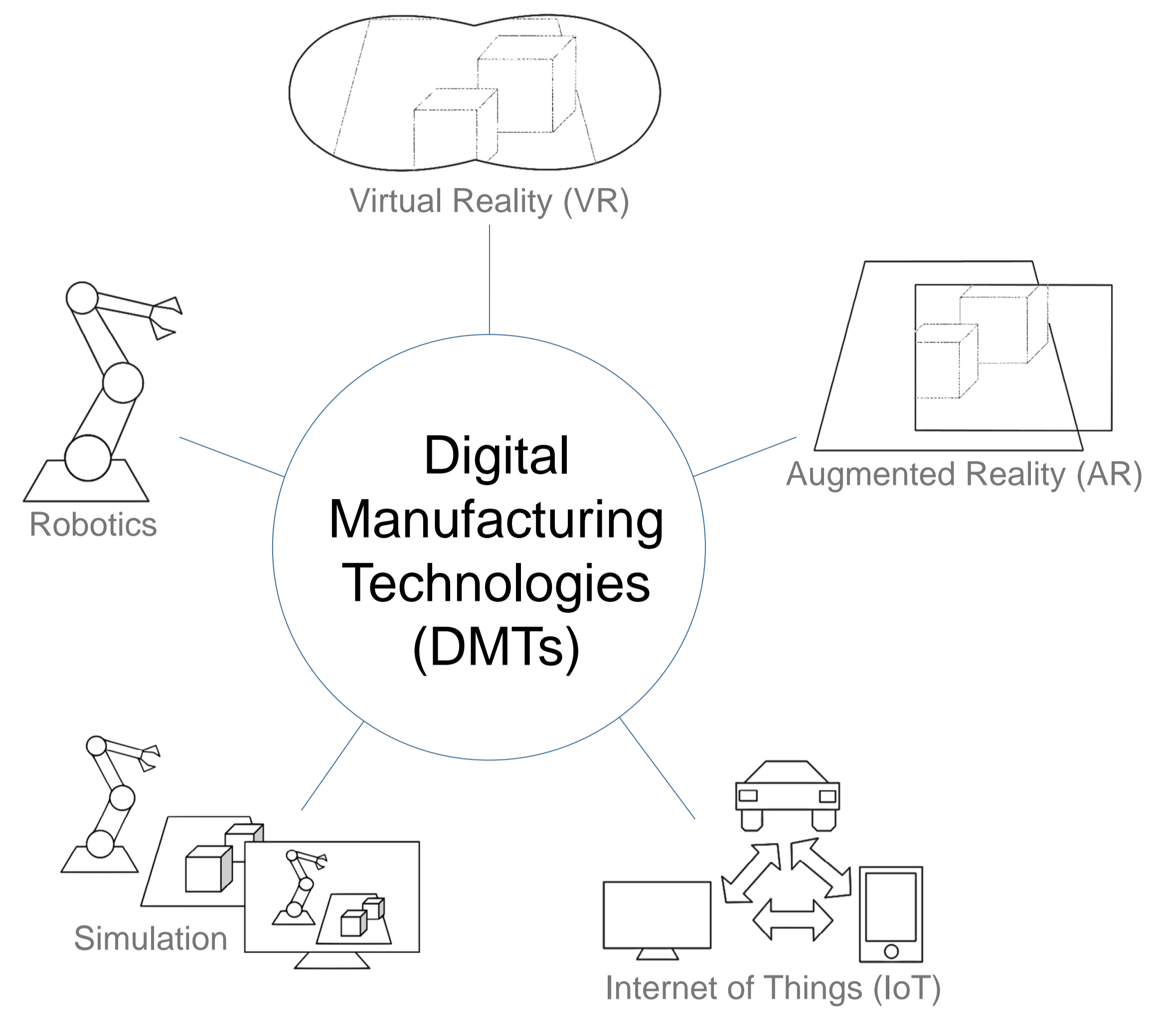


Individual and organisational acceptance and ethics
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Overview

A range of new digital manufacturing technologies (DMTs) will transform work environments and the jobs people currently do. To enable manufacturing organisations to optimise the introduction of DMTs to their workforces, the DigiTOP project will deliver an open-access digital toolkit for real-time data capture and prediction of human requirements such as workload, situation awareness and decision making in relation to various types of DMT.

As previous research has shown that the success of any new technology or process relies on workforce acceptance and adoption, from shop floor operators to senior management, Work Package 6 (WP6) will specifically address how organisations can ensure ethical and acceptable implementation of these DMTs.



Aim

DigiTOP's WP6 aims to develop a tool that enables manufacturing organisations to self-assess their readiness for new DMTs and identify specific remedial / preparatory actions that need to be taken to ensure ethical implementation and workforce acceptance.

Objectives

- Identify barriers / enablers to acceptance and adoption of new manufacturing technology across different stakeholders at organisational and individual levels
- Develop model and tool for organisational self-assessment of current readiness linked to remedial / preparatory actions
- Validate tool and integrate it into DigiTOP toolkit

Method

Organisational level analysis:

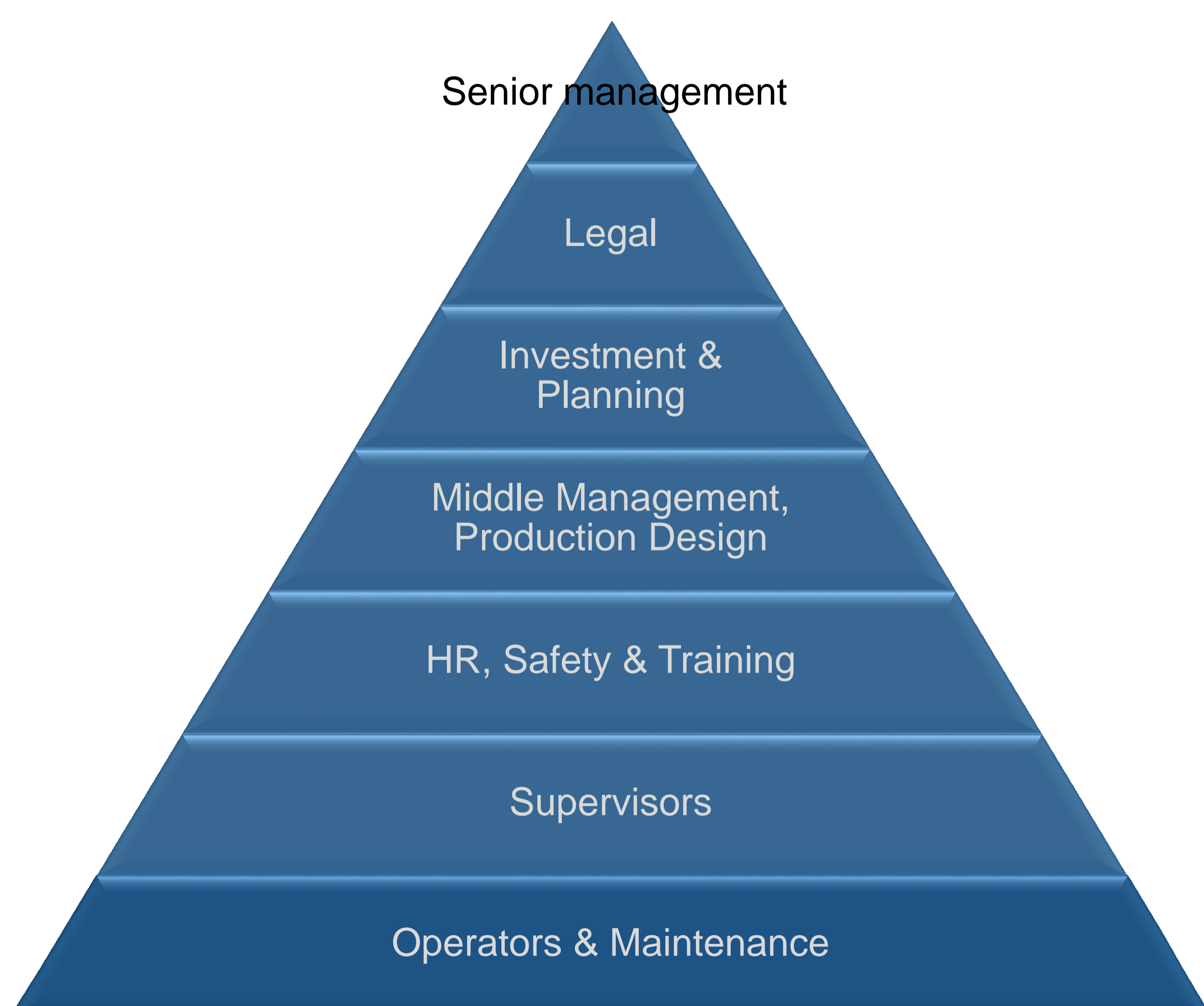
- Key barriers and enablers will be identified via exploratory semi-structured interviews across different stakeholders and levels within selected organisations
- An online survey for quantitative measurement of barriers and enablers will be developed and distributed more widely

Individual level analysis:

- Key barriers and enablers to workforce (user) acceptance will be identified via experimental studies in which participants' responses to / interactions with various DMTs will be examined

Tool development:

- The self-assessment tool to measure key barriers and enablers will be developed with 'personalised' response links to appropriate ethical remedial actions (e.g. training, layout, tools, etc.)
- The tool will be tested via industrial case study and integrated into the DigiTOP toolkit.



Novelty

Currently, no valid and reliable tool is available to industry for assessment of DMT readiness and workforce acceptance at organisational and individual levels. This research will provide this tool to promote successful future DMT implementation.



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