

The Future of Assurance

Professor John Oakland

Chair of The Oakland Group

The Future of Assurance: a CQI funded research project

The **Chartered Quality Institute** has commissioned a consortium comprising **The Oakland Institute for Business Research & Education and Leeds University Business School** to carry out research into ‘**The Future of Assurance.**’ It follows on from two successful projects on Quality 4.0 – definition, principles & practice, plus matrixes.

Vincent Desmond, CQI CEO, said, “The focus of this project will be to **research existing literature and consult an appropriate sample of industry leader and practitioner views.** This will help us to develop an understanding of what the future holds for assurance.”

The project ran through most of 2022 and the **CQI will publish the results of the research throughout 2023**

The Future of Assurance: Research Team



The Research Team:

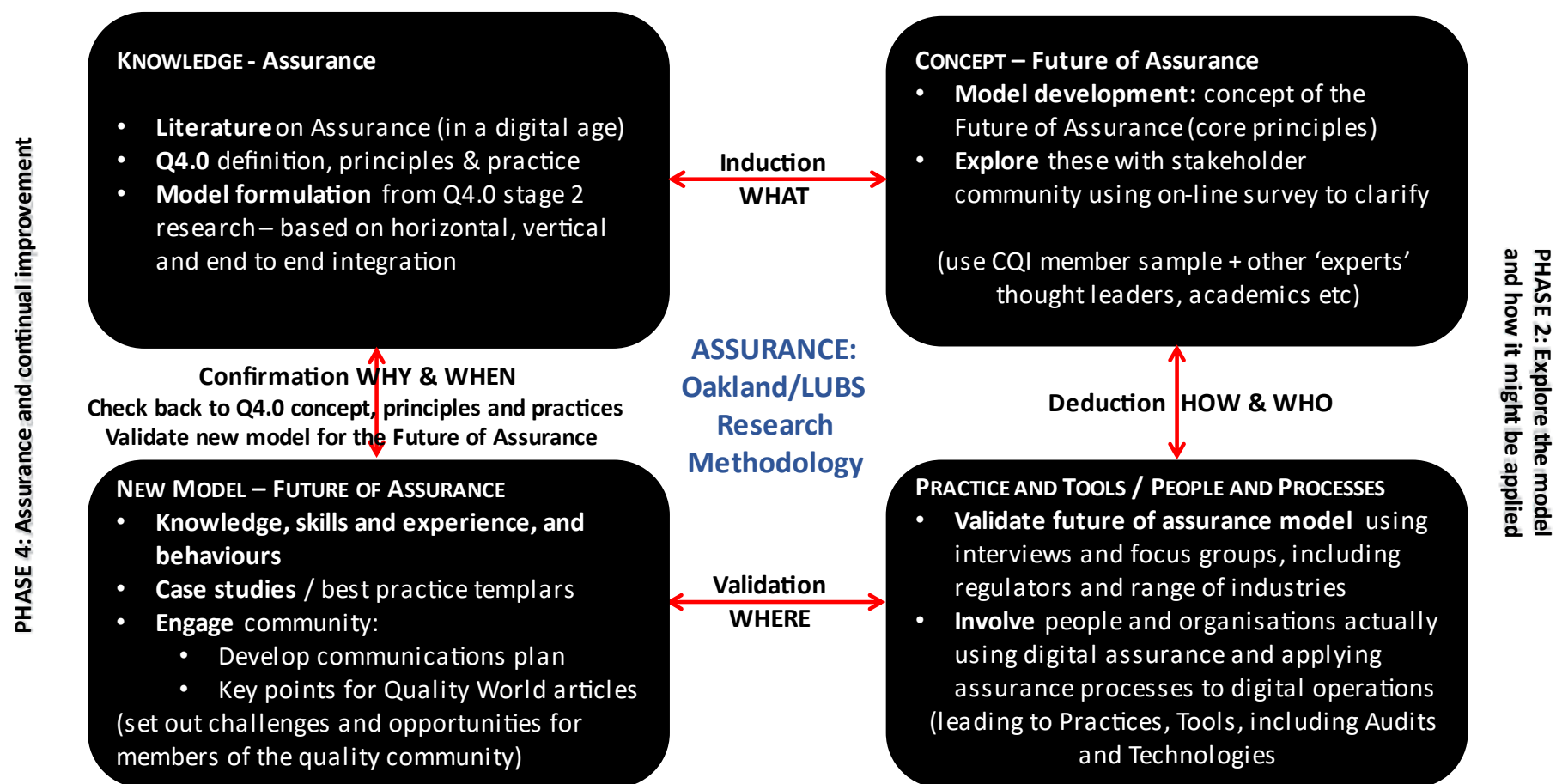
- **John Oakland**, Head of The Oakland Institute and Emeritus Professor at Leeds University Business School;
- **Chee Yew Wong**, Professor of Supply Chain Management at LUBS;
- **Ian McCabe**, FCQI, Oakland Institute;
- and **Dr Katey Twyford**, Oakland Institute Research Associate

The Future of Assurance: Research Framework



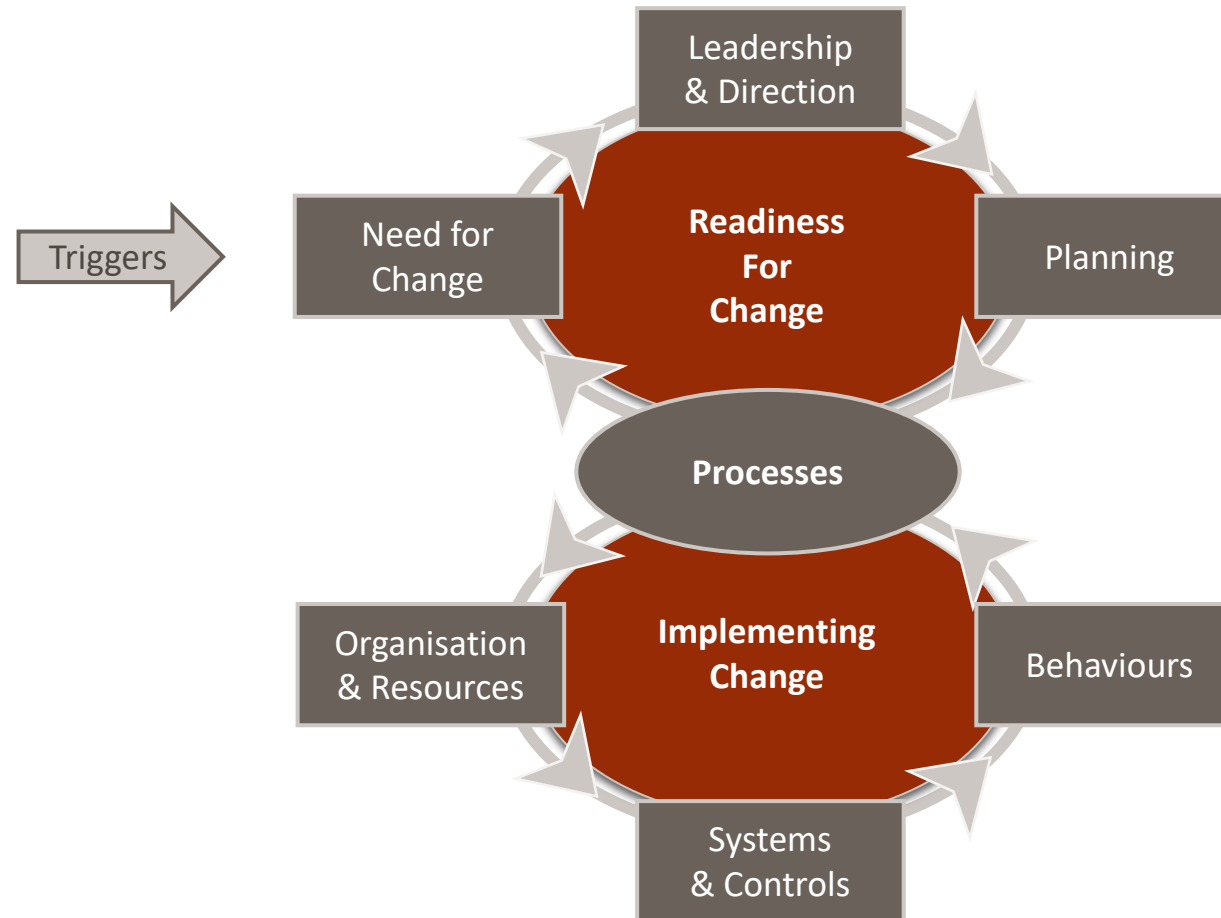
Figure 1: Systematic approach: investigate, clarify, validate, and disseminate a new working model for the future of assurance

PHASE 1: Investigate and clarify current views of the Future of Assurance



PHASE 3: Infer how Future Assurance will be undertaken in different situations by reference to the model

The figure of 8 framework for successful change will be used to present the results:

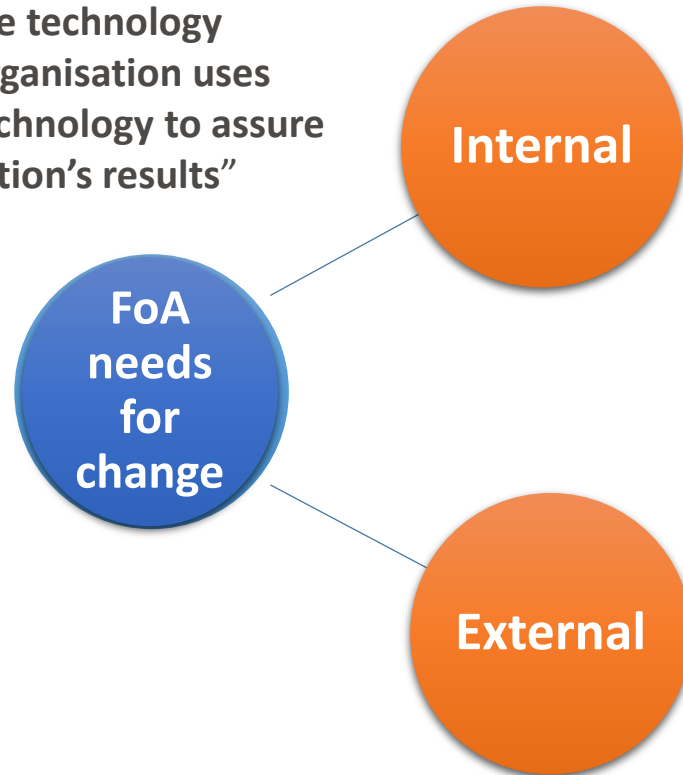


Readiness for change



FoA – identified needs for change

There is a need to address:
“Assuring the technology
which the organisation uses
and using technology to assure
the organisation’s results”



Improve assurance efficacy & efficiency – **vertical integration** (Q4.0)

Improve quality and safety – **horizontal integration** (Q4.0)

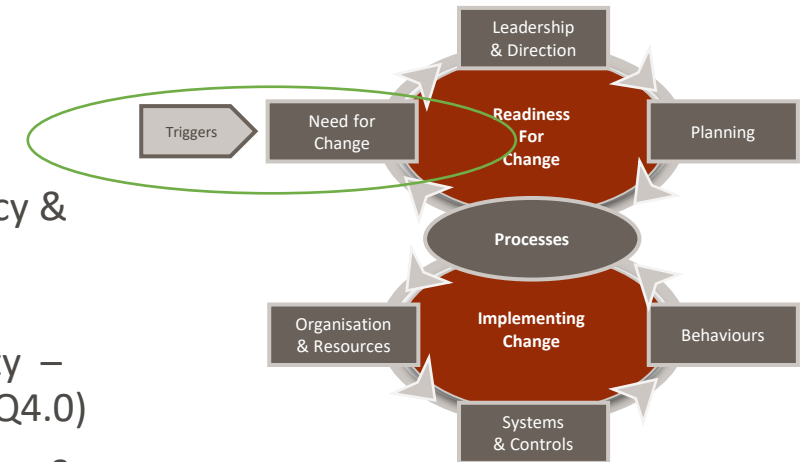
Importance of digitalisation & technology in assurance needs to be recognised **right at the top of most businesses**

Use of digital tools in assurance frameworks to **better understand risks & consequences** is recognised as a major need

Supplier assurance issues – **end-to-end integration** (Q4.0)

Assurance is provided in many ways, but is **currently very reliant upon inspection**

New & emerging technologies (risks/threats & opportunities)

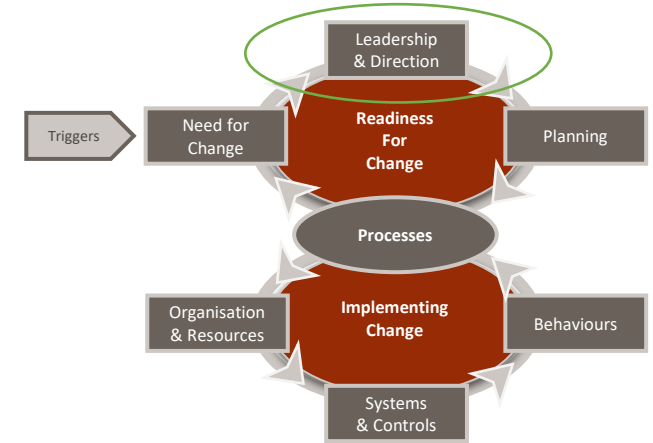
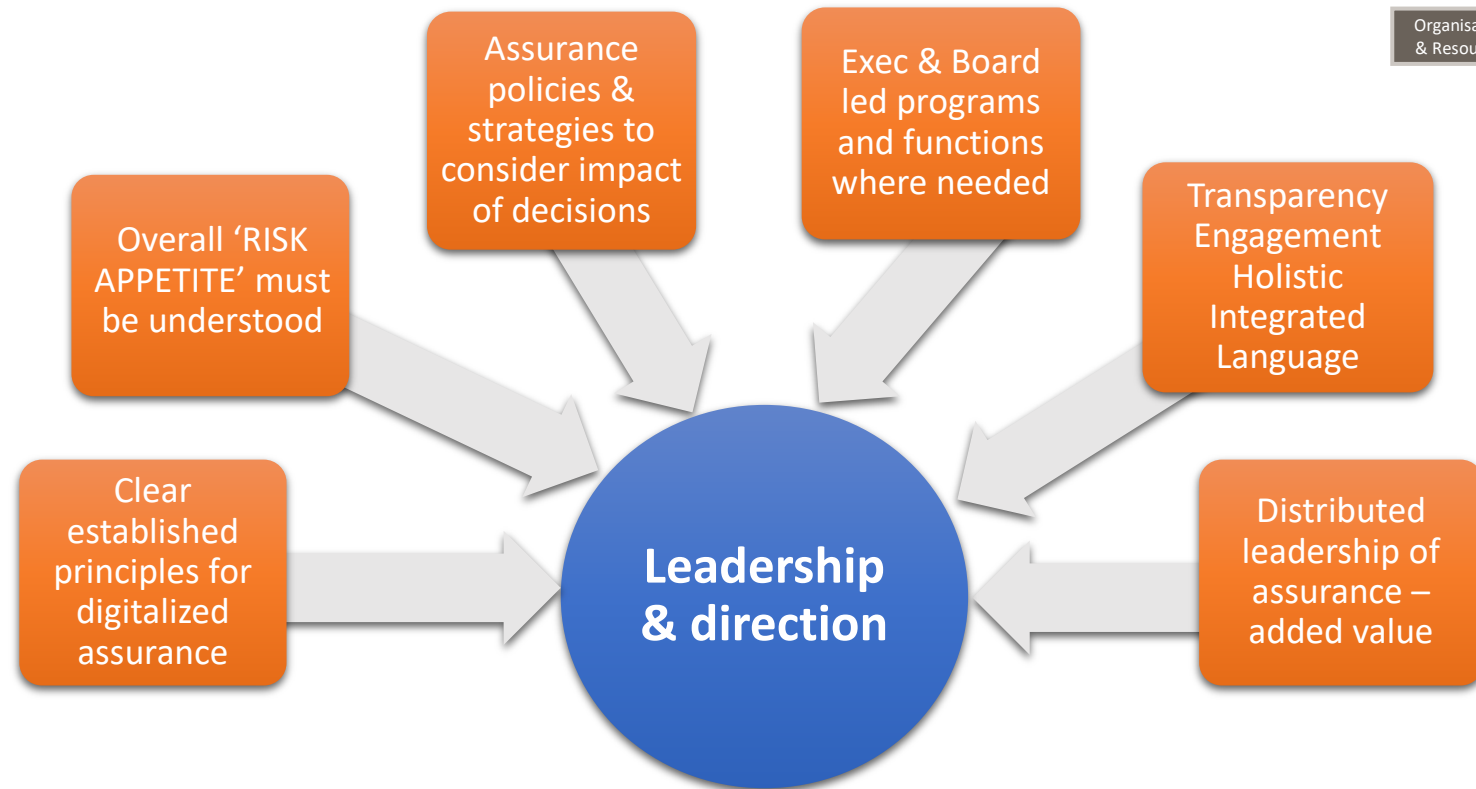


Readiness for change



Clear leadership and direction

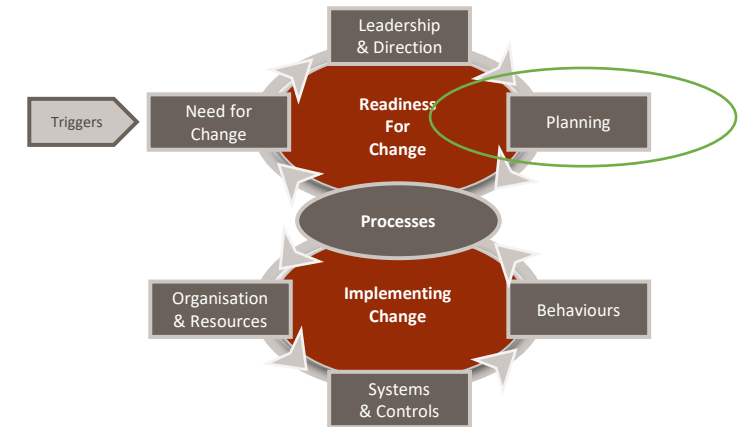
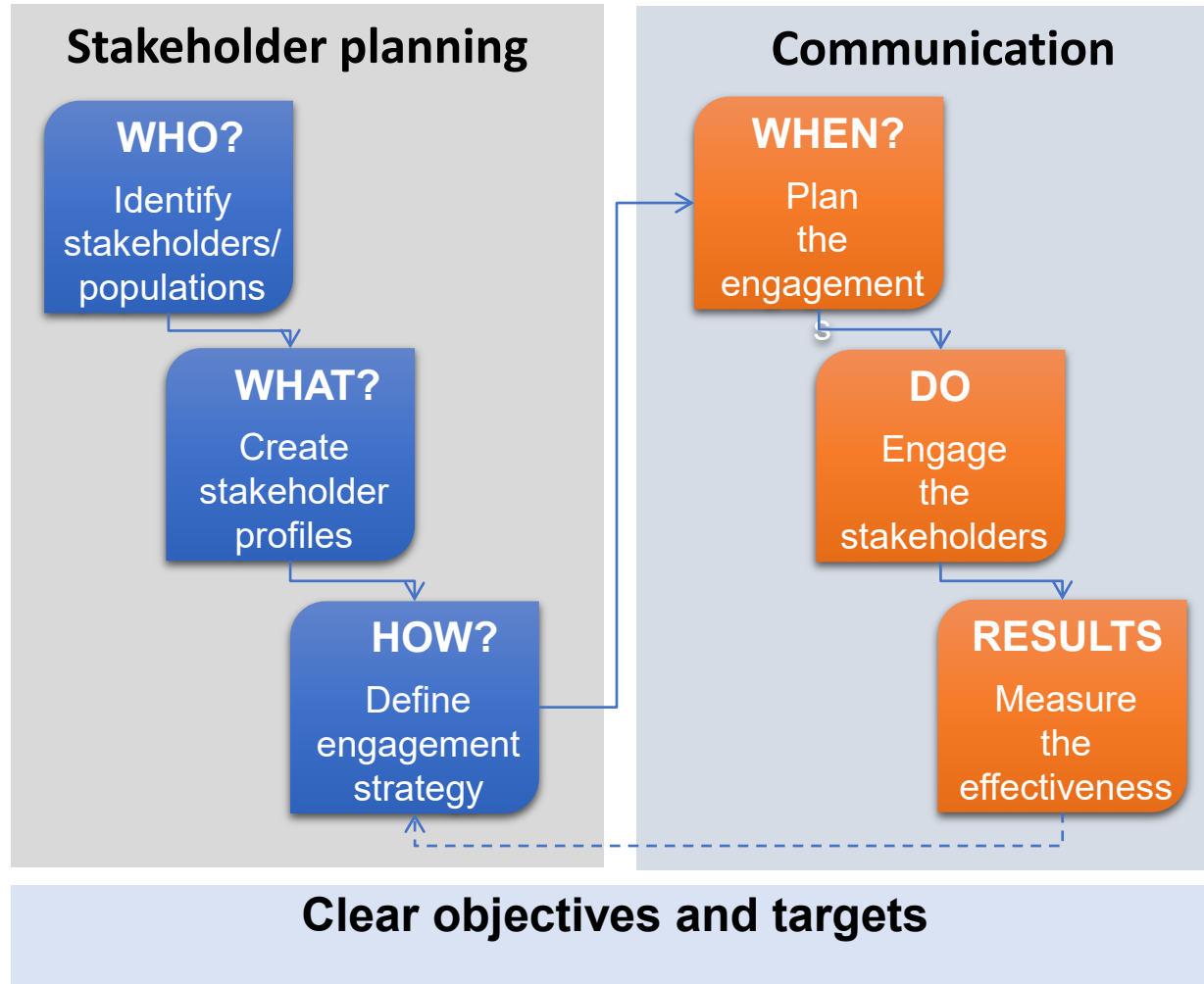
- Identify and select priorities for assurance



Readiness for change



Structured and robust planning

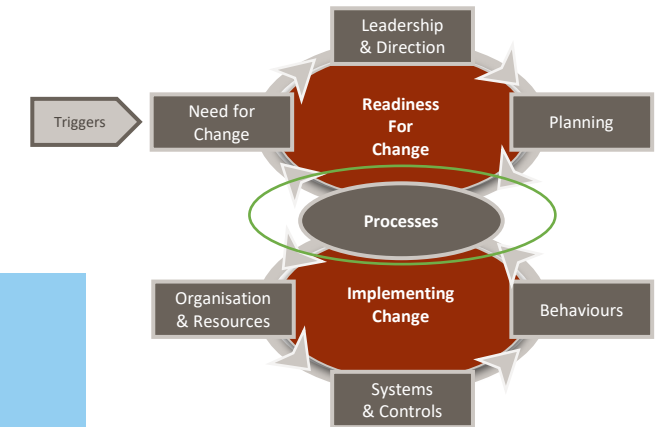
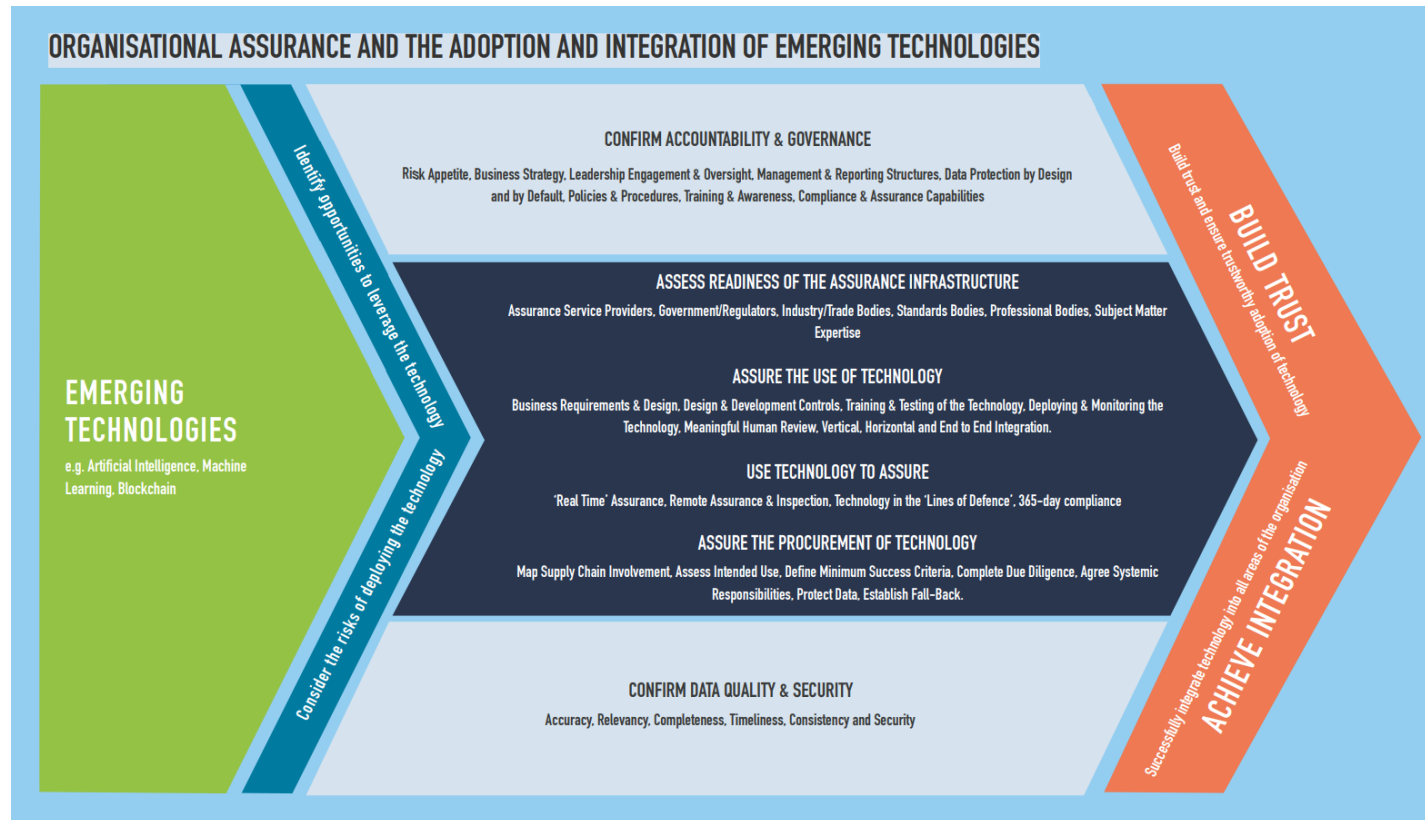


Emerging technologies provide opportunities for organisations to leverage multiple methods, technologies and data sources to develop a comprehensive understanding of underlying assurance processes to improve integrity of assurance information and reduce uncertainty by replacing '3 lines of defence' with: **'3 Dimensions of Assurance'**

Processes



A processes framework for assurance with emerging technologies



Implementing change



Organisation and resources

- New assurance structures will enable efficient and effective end-to-end process operation

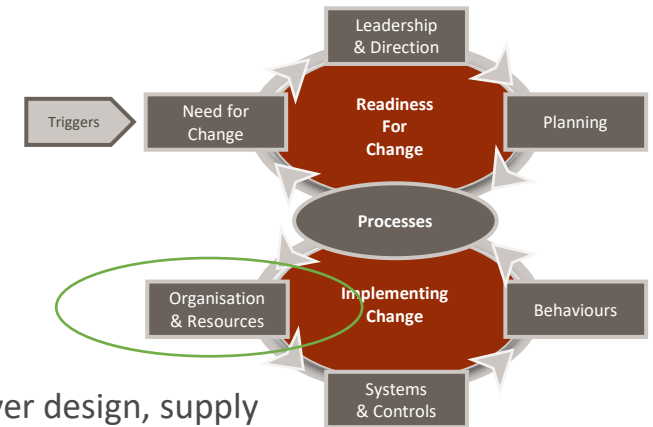


Need to 'shift left' - **'Total Assurance'** to cover design, supply chains and operations – products, services, processes & systems

Matching digitalized assurance process needs with people's Competencies

Quality assurance models will need to evolve from the traditional functional and organizational to an 'ecosystem model'

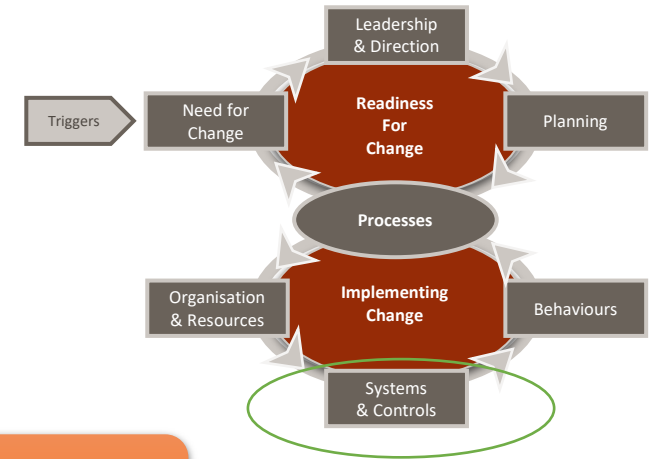
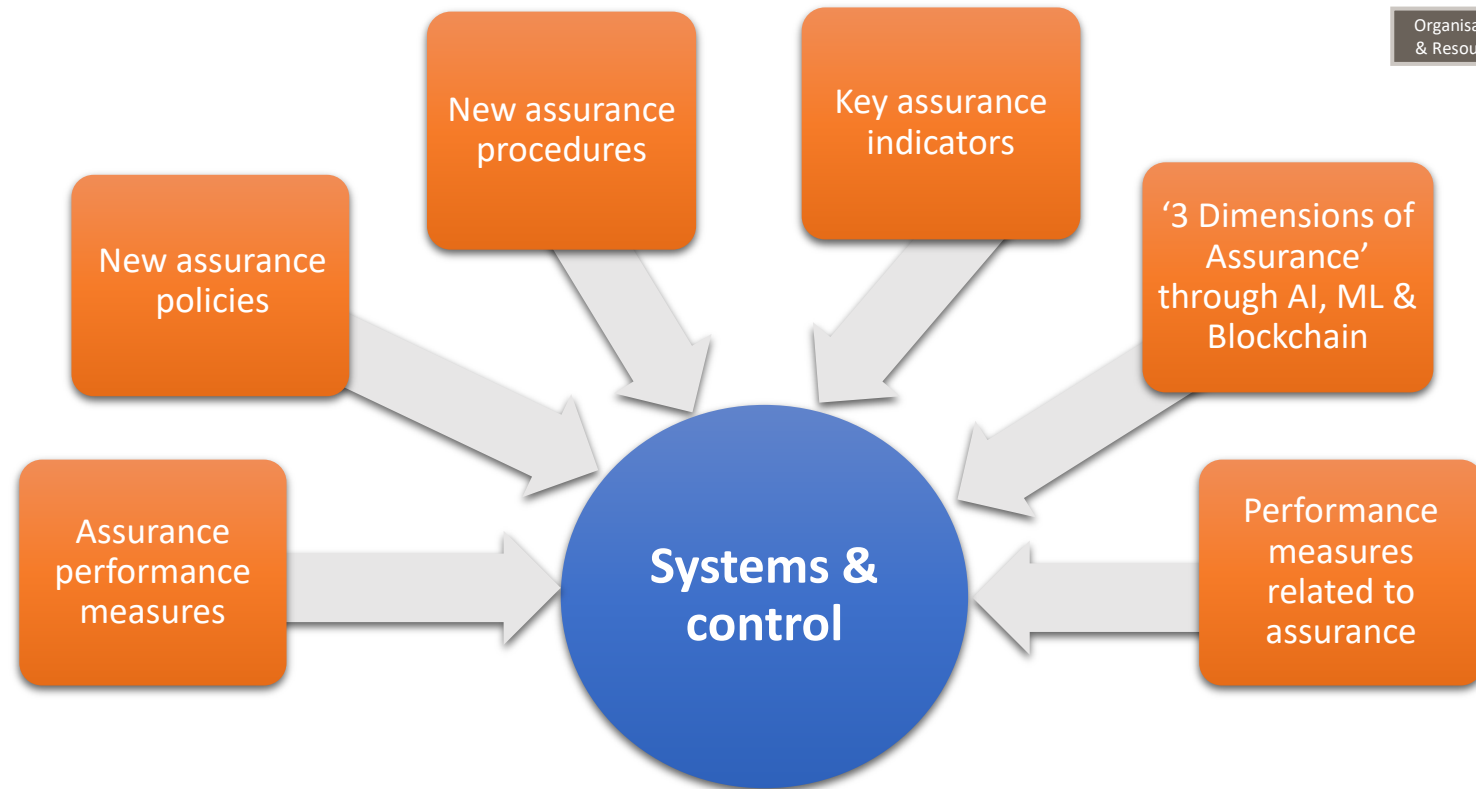
Good data will be the starting point for both 'assurance of technology use' and 'technology use for assurance,' laying the foundation for meaningful assurance re-organisation of the assurance reporting lines



Implementing change

Systems and controls

- New assurance processes defined and deployed

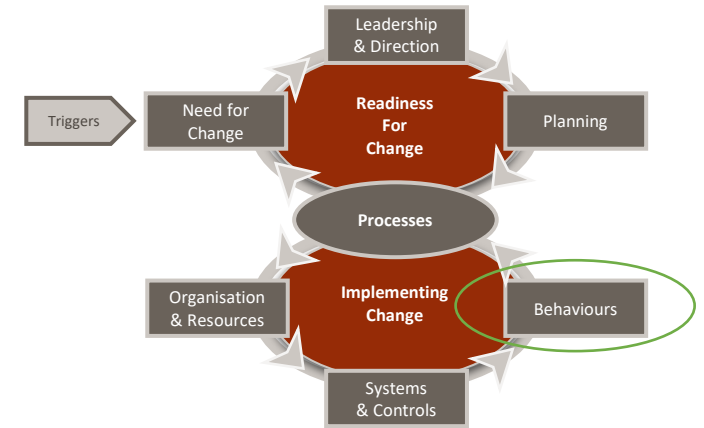


Implementing change



Behaviours

- More data scientists needed to be able to interrogate things like blockchain and how AI models have been tested
- Involvement of top management essential to success of digital transformation of/in assurance – requires support from across the organisation
- Where models of assurance heavily focussed on management systems audit/third party assessment – need to embrace change as the tools, techniques, and technologies of assurance develop
- Auditors & assessors needs – develop map, train, adapt



Call to action

SIX key action areas use the working model from this research: ***Organisational Assurance and the Adoption and Integration of Emerging Technologies*** to:

1. Generate **demand** for reliable and effective assurance across the AI supply chain
2. Build a dynamic, competitive **AI assurance market**, that provides a range of effective services and tools
3. Develop **standards** that provide a common language and scalable assessment techniques for AI assurance
4. Build an **accountable AI assurance profession**
5. Set out **regulatory requirements** that can be assured against
6. Improve links between industry and **independent researchers**, so that they can help develop assurance techniques and identify AI risks

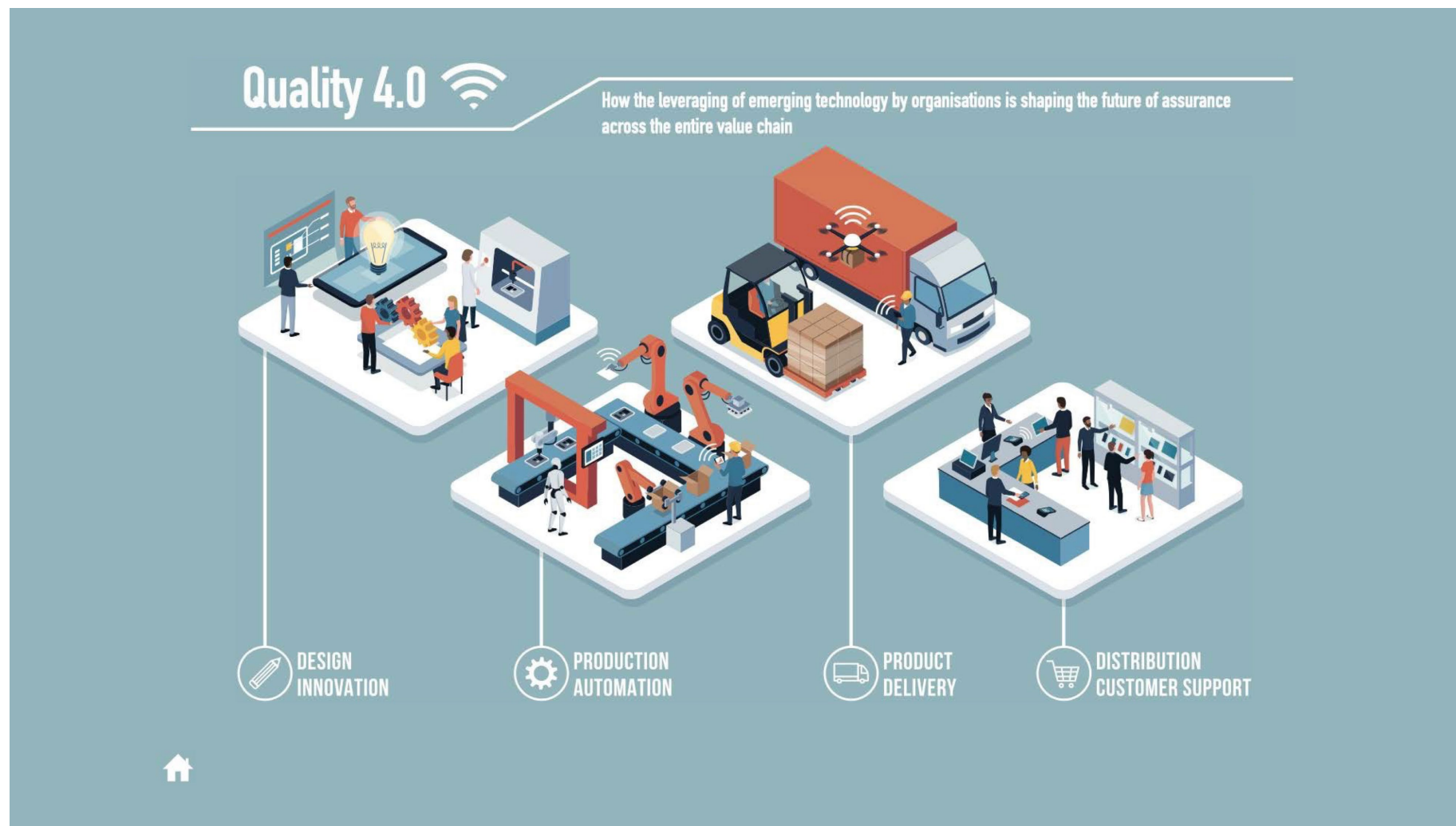
Key messages

1. Be aware of **technology risks**: pace of technological change bringing unparalleled opportunities for organisations to disrupt themselves and enter ‘new markets’ – brings **new risks** for organisations. Speed of adoption, complexity & ubiquity of emerging technologies means that these risks are rapidly increasing in both likelihood and impact – they are often taking place unnoticed.
2. **Get ready to assure**: Current assurance approaches alone are insufficient to address the risks. Assurance leaders urgently need to **engage with their stakeholders**, through **vertical, horizontal and end-to-end integration**, to understand how emerging technologies impact their organisation now and, in the future, so their operations can save time and effort and efficiently make use of limited resources.
3. **FINALLY**: - Resulting changes to assurance scopes and approaches require **new skills and capabilities** that assurance teams need to start developing today to remain **relevant for the future**. As part of this, ‘**ethical assurance**’ will be key to help ensure that in embracing the new technologies organisations are confident that the way in which they are doing so is consistent with their brand and culture, allowing them to demonstrate integrity and build essential digital trust.

And – USE the NEW FRAMEWORK!



Quality 4.0 and the Future of Assurance



Quality 4.0 and the Future of Assurance



Quality 4.0

How the leveraging of emerging technology by organisations is shaping the future of assurance across the entire value chain



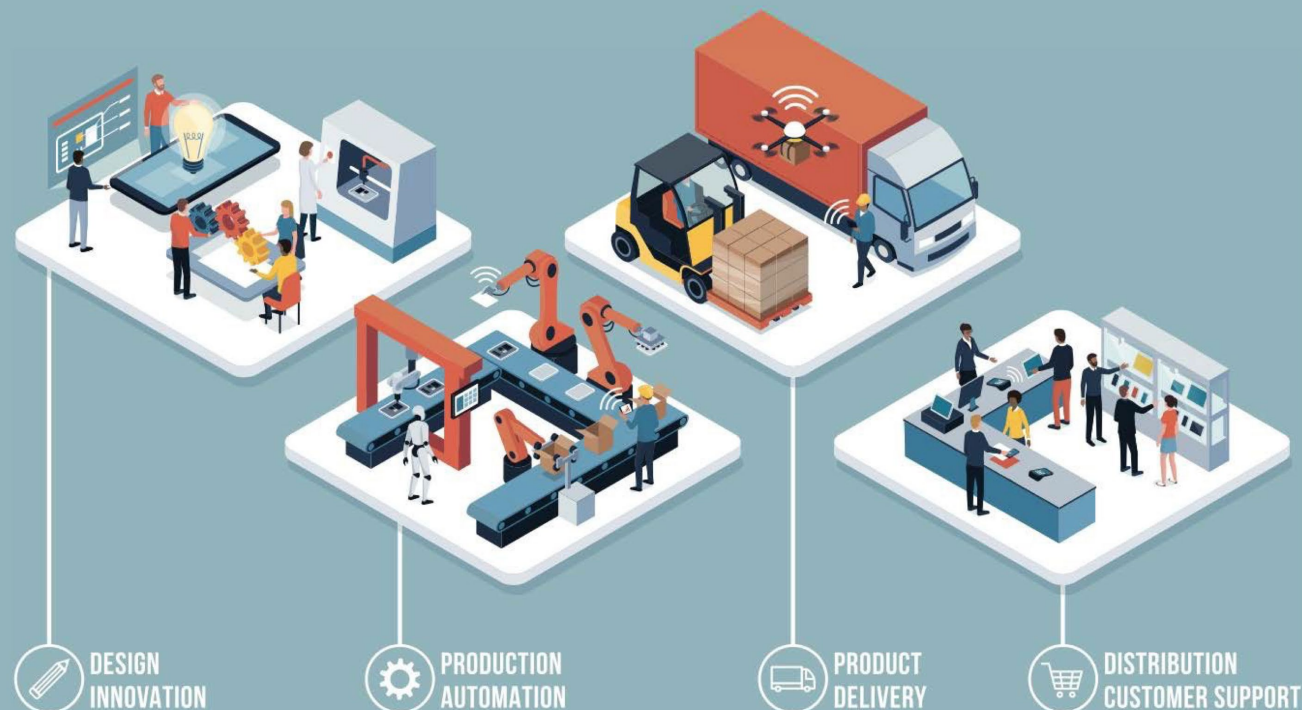
From Post to Pre-Assurance: As organisations leverage 'design thinking' to incorporate emerging technology into its products and services (to drive innovation and growth), assurance after the event will become increasingly irrelevant. There are various reasons for this for example; machine learning models can't be retrospectively audited; the potential for Robotic Process Automation to potentially (and almost instantaneously) process millions of items incorrectly (but consistently); and the immutability of Blockchain. The impact of not assuring emerging technologies before the event (during the design and innovation stage) will increase in line with the increase of the power and responsibility being entrusted to them as they are embedded into safety critical, or decision making, systems.

Quality 4.0 and the Future of Assurance



Quality 4.0

How the leveraging of emerging technology by organisations is shaping the future of assurance across the entire value chain



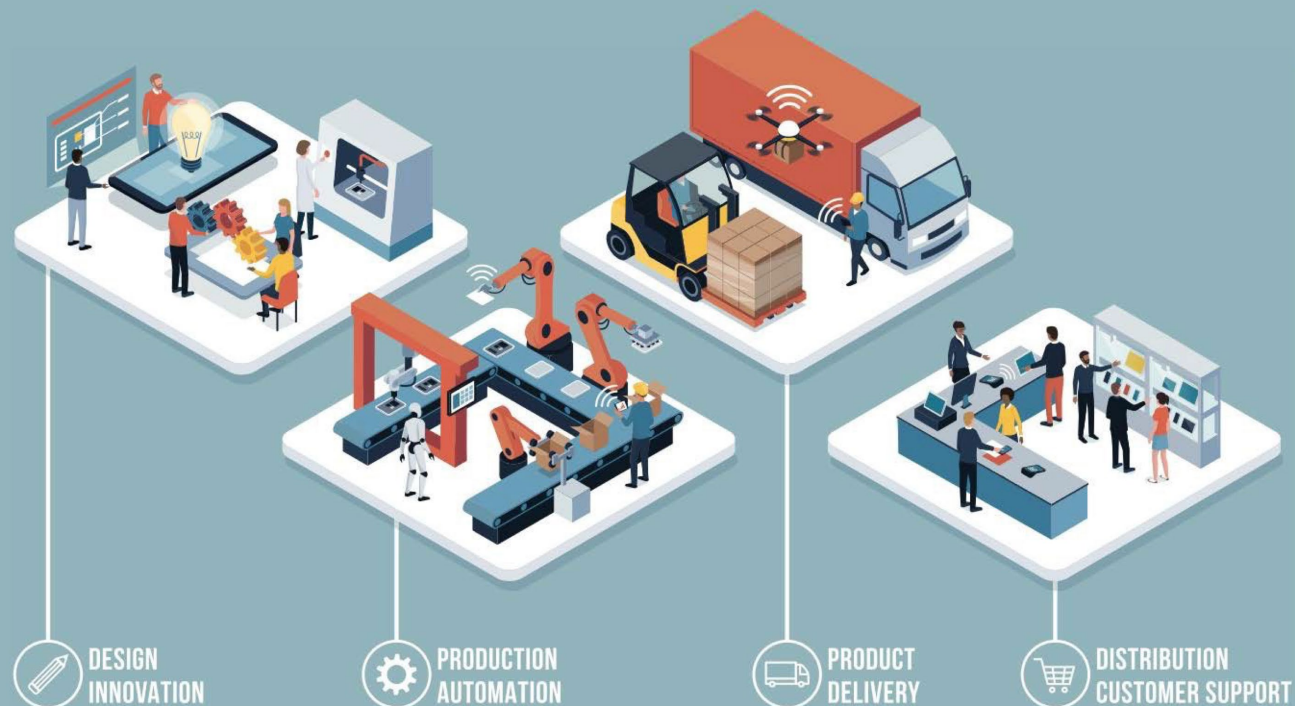
From Assurance Decay to Sustained Assurance: Assurance teams spend a significant amount of effort in providing 'assurance' over products, services, processes and projects based on how well they are doing at a point in time and provide little comfort as to how long into the future the assurance will remain valid — 'sustained assurance' compared with 'assurance decay.' If a continuously evolving system is working as expected now, what assurance is there that it won't start producing erroneous decisions and predictions going forward? While this may be an implicit gap in how assurance is delivered today, emerging technology will accelerate the need to address this, with the scope of assurance plans and reporting needing to evolve to address areas such as 1) The assumptions that will need to remain constant for the assurance to be valid; 2) The ongoing monitoring controls that allow the assumptions and therefore the assurance to remain valid; 3) Specific triggers that would cause a revisit or the revision of the assurance so that it will remain valid; 4) Assurance over controls covering ongoing change management and evolution of the systems.

Quality 4.0 and the Future of Assurance



Quality 4.0

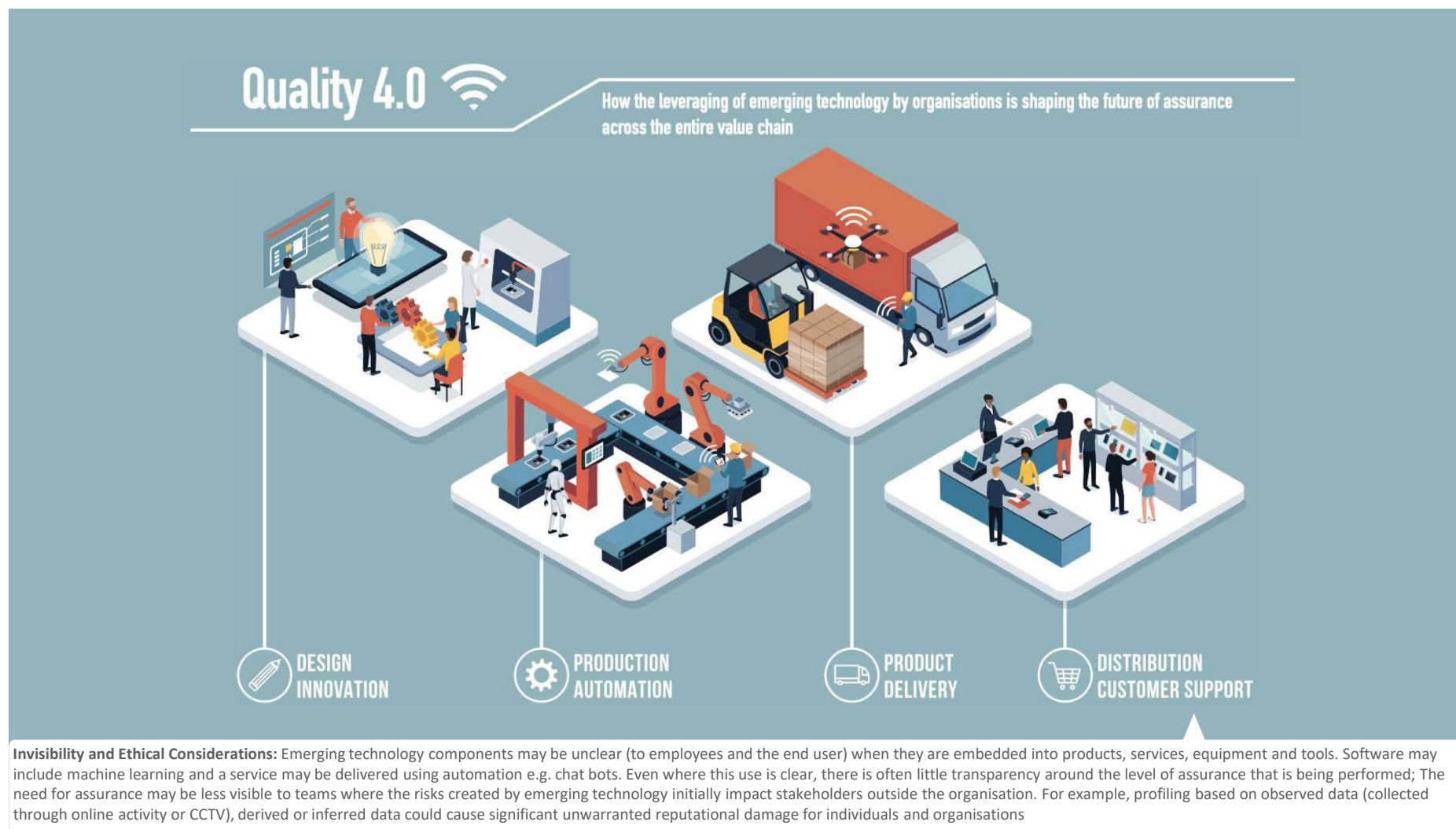
How the leveraging of emerging technology by organisations is shaping the future of assurance across the entire value chain



Extended enterprises: Extended enterprises mean that the technologies are not controlled exclusively by the organisation and are often adopted through the use of third party services or dictated by the supply chain. Increasingly, the data that is used by emerging technologies is shared between organisations.

Complexity of Technology: The ever increasing interactions between autonomous computer systems (across these extended enterprises) may lead to unpredictable and potentially untraceable outcomes and as such technology specific assurance approaches may be of limited value.

Quality 4.0 and the Future of Assurance





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Professor Chee Yew Wong

Dr Katey Twyford

Ian McCabe



Any questions?



Thank you for joining us

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