

Futures Modelling for Next-Gen Risk Management

**Prepared by Jackson Calder
Founder & CEO – JC Ltd.**



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About me

- BA - International Relations & Cultural Anthropology - VUW
- MSS – Master of Strategic Studies, Distinction – VUW
- Founder & CEO – JC Ltd. Geopolitical Risk & Futures Modelling
- Committee Member – NZ Institute of International Affairs
- Governance & Strategy Secretary - United Nations Young Professionals Programme
- Asia New Zealand Foundation Scholarship recipient 2019



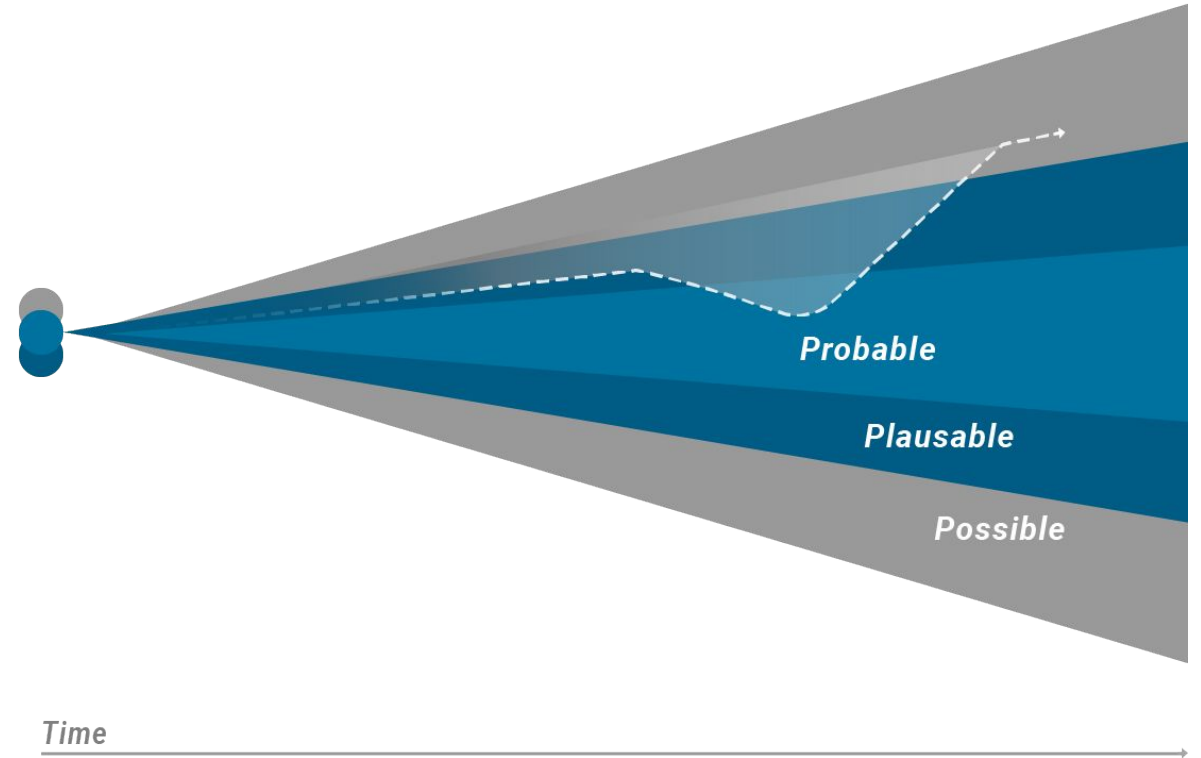
About JC Ltd.

- Founded June 2021
- Forecasting
- Futures Modelling
- Strategy advisory
- Strategic communication
- Strategic narrative
- Risk management
- Research & analysis



What is the 'future'?

- "The future is now!", "Tomorrow, today!"
- The future is **not a commodity**.
- It's an **iterative process** that we must actively engage with.
- **It cannot be predicted.**
- **It is in constant flux.**
- It can be **shaped and pushed** in different directions.
- **Facing uncertainty head-on** and getting comfortable with it.



Why practice futures?

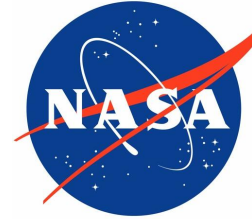
- Risk = uncertainty
- Wicked problems
- Threat & risk multipliers/amplifiers
- Issue linkage
- Complex interdependence
- Interconnectedness means risk profiles shift more regularly and in unexpected ways
- More and more companies now have skin in the political game
- The futures practitioner mindset helps us to see our environment differently
- Understand how one change may effect other dynamics throughout society



Who practices futures?

Changeist:

- AXA Insurance
- Nokia
- NASA
- UNICEF
- Nesta – UK Innovation Agency
- International Federation of Red Cross and Red Crescent (IFRC)
- Arup Group
- Therme Group



NOKIA



nesta



ARUP



**THERME™
GROUP**

Who practices futures?

Useful Fiction LLC:

USEFUL FICTION HAS
PROVIDED ITS FORESIGHT,
ENVISIONING, AND TEACHING
SERVICES TO A WIDE RANGE
OF PUBLIC AND PRIVATE
SECTOR ORGANIZATIONS.

INCLUDING:

- AUSTRALIAN DEFENSE FORCE
- BOOZ ALLEN HAMILTON
- CANADIAN ARMY
- DEFENSE SCIENCE AND TECHNOLOGY LABORATORY (UK)
- DEFENSE THREAT REDUCTION AGENCY
- FLORIDA INTERNATIONAL UNIVERSITY
- FORCEPOINT
- INTER ASTRA
- INXILE/MICROSOFT
- NATO
- NORTH AMERICAN AEROSPACE DEFENSE COMMAND (NORAD) / US AIR FORCE ACADEMY
- NORWEGIAN ARMY
- OFFICE OF THE DIRECTOR OF NATIONAL INTELLIGENCE
- ROYAL MILITARY COLLEGE OF CANADA
- SYRACUSE UNIVERSITY: The Maxwell School of Citizenship and Public Affairs
- US CONGRESS
- US AIR FORCE
- US MARINE CORPS-SPECIAL OPERATIONS COMMAND (MARSOC)
- US NAVY
- VETERANS FOR POLITICAL INNOVATION
- WILLIAM & MARY COLLEGE: Reves Center for International Studies

Sensing – Horizon Scanning

- Looking for **signals** of future change
- **Interpreting information** you see in the world
- Finding **patterns and themes**
- Bring a picture of the future into focus
- Finding blind spots & minimising uncertainty
- **‘Known knowns’**
- **‘Known unknowns’**
- **‘Unknown unknowns’**

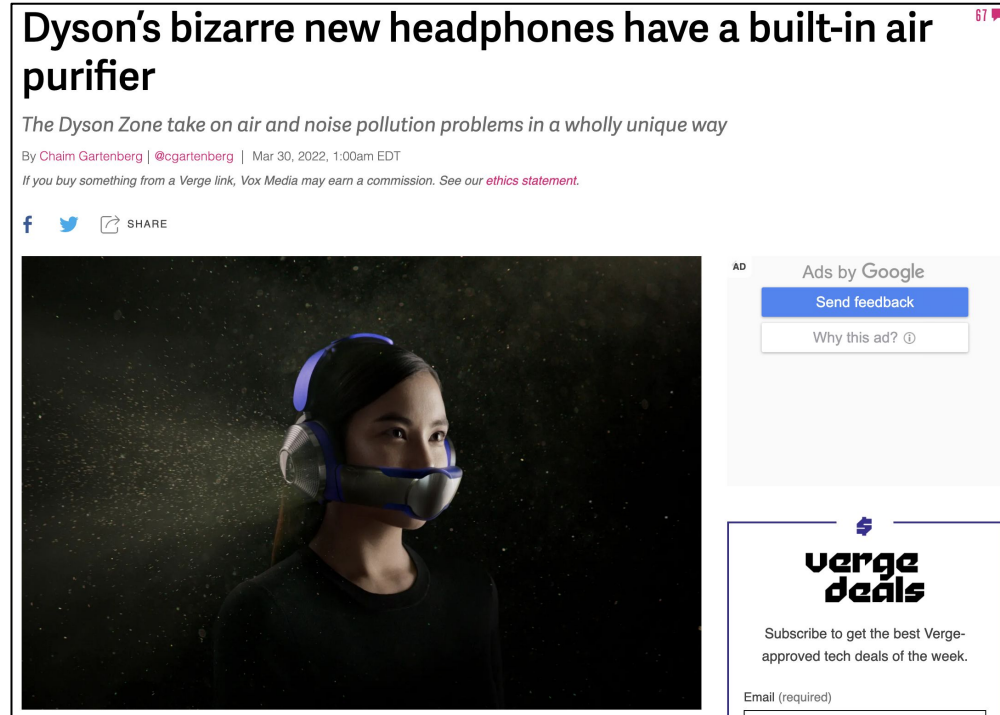


Ozymandias in Watchmen

Sensing – Horizon Scanning

Sources:

- sector reports
- white papers
- national and global news
- academic journals
- blogs
- social media
- newsletters and link aggregators
- current affairs shows
- online databases
- expert interviews
- art and design
- social events such as music festivals
- lots more...



Create a large open-source intelligence network.



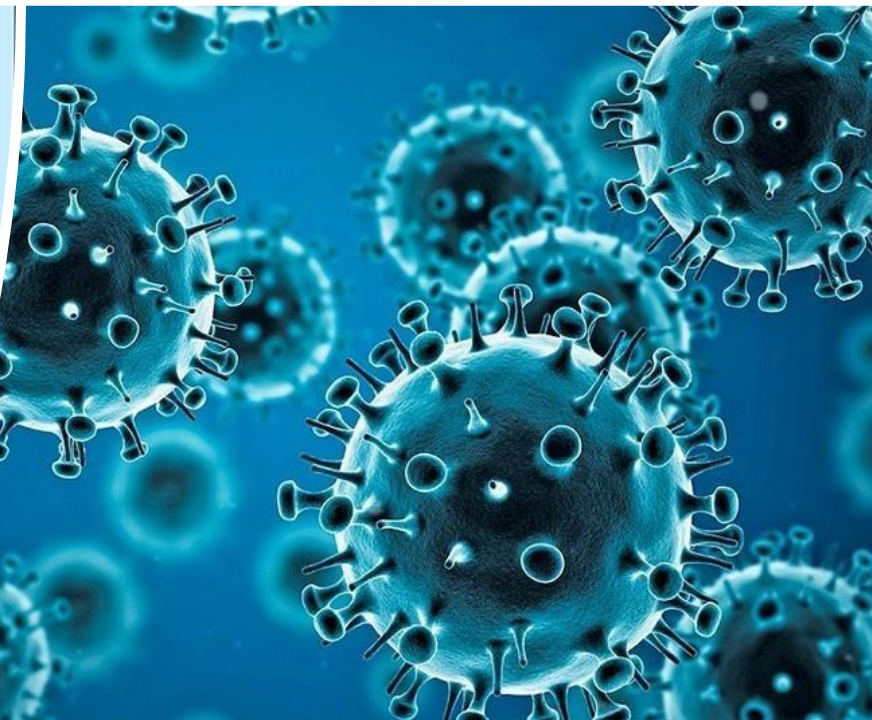
international
intrigue

Scan the scanners!



Black Swan Events

- Usually cannot be foreseen.
- Sudden, unexpected changes that have widespread ramifications.
- Focus here shifts to organisational resilience and agility.

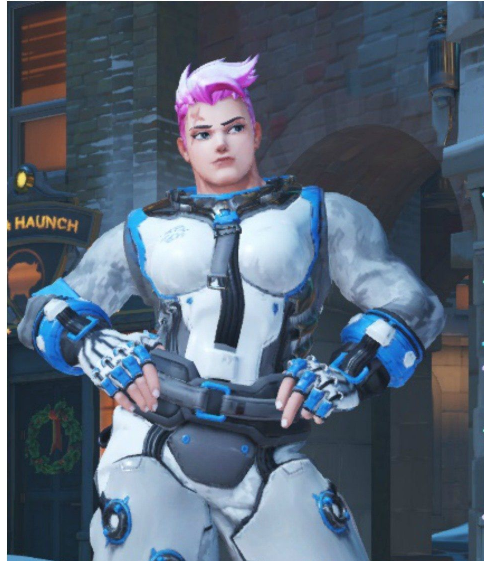
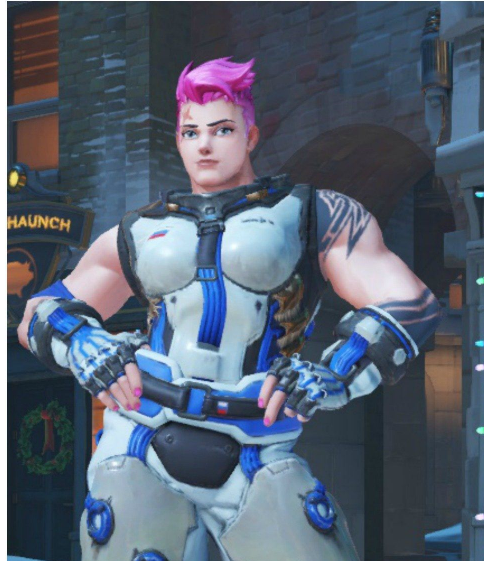


Overwatch's Zarya no longer wears a 'Z,' now a Russian pro-war symbol

Blizzard tweaks two skins to remove the letter from Zarya's designs

By [Michael McWhertor](#) | [@MikeMcWhertor](#) | Apr 6, 2022, 4:28pm EDT

f t SHARE



Russian forces in Ukraine, 2022



Sense-Making – STEEP Analysis

Categorisation

Social
Technological
Economic
Environmental
Political

Horizon

Horizon 1: 6-12 months

Horizon 2: 1-5 years

Horizon 3: 5-10+ years

Three P's

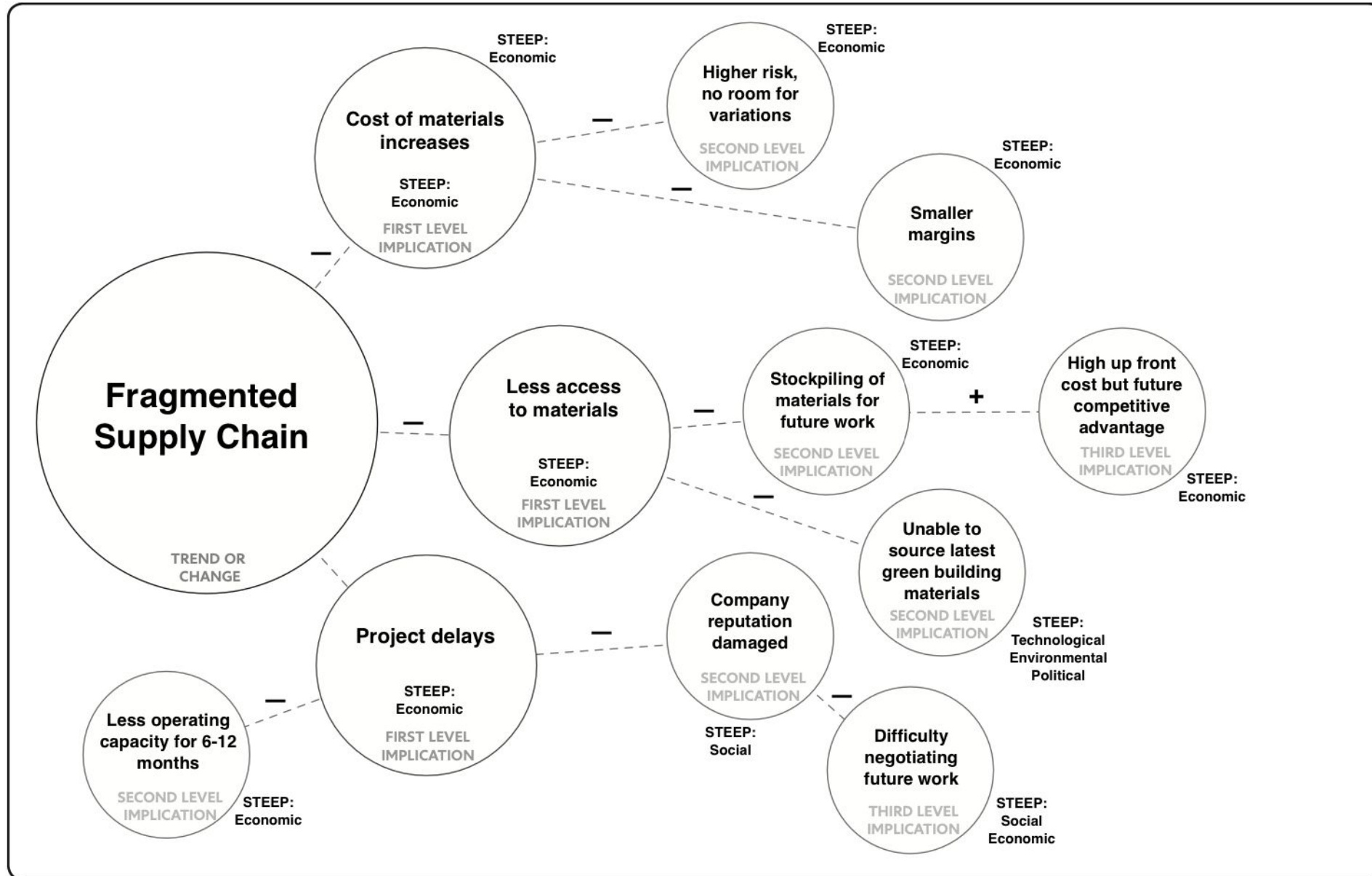
Probable: This trend is very likely to have an impact on the business.

Plausible: This trend might impact the business.

Possible: This trend has a low likelihood of impacting the business.

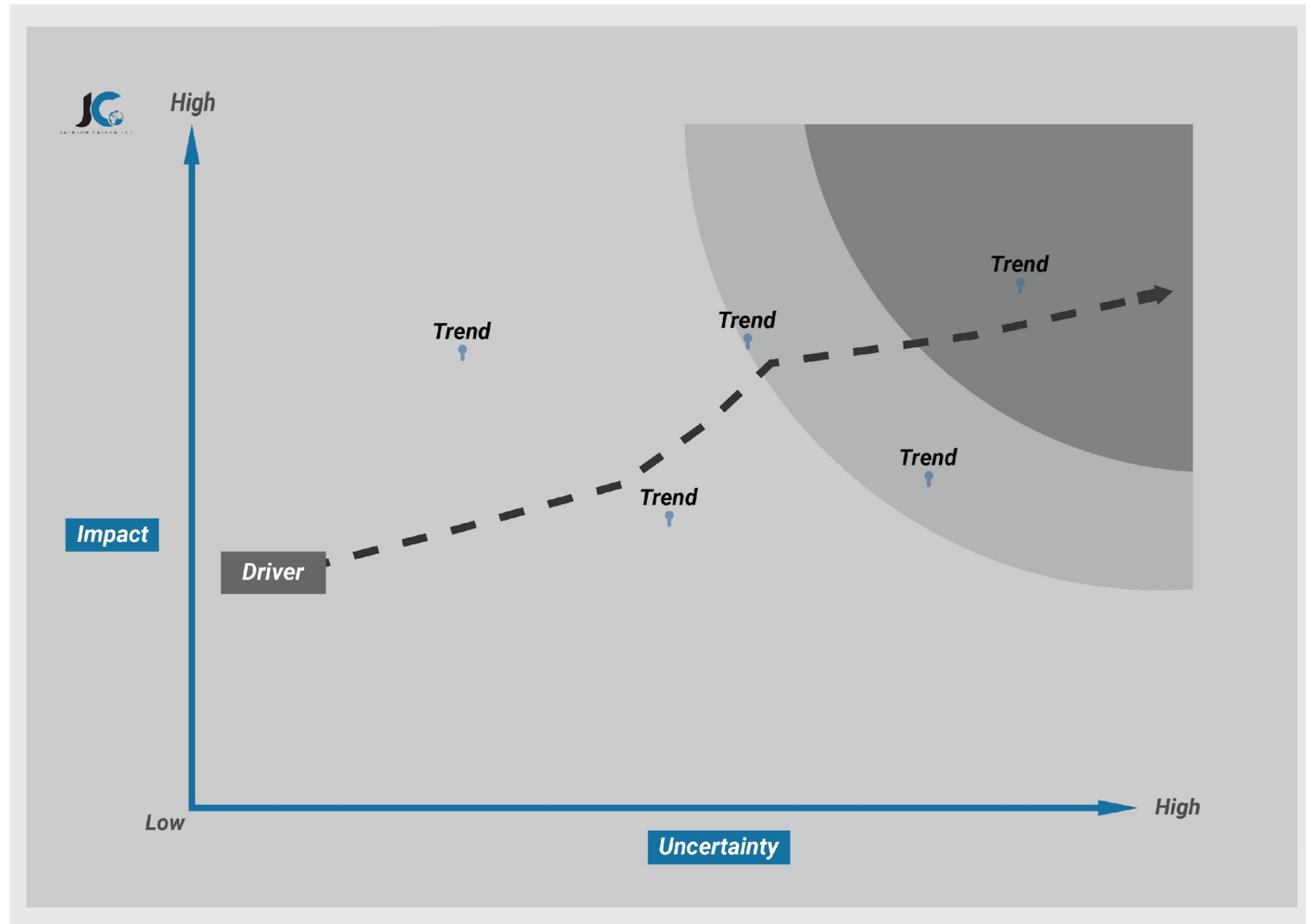
TREND	EVIDENCE/SIGNALS	STATEMENT	HORIZON	THREE P's	STEEP
Extreme weather events	Expert climate forecasts Science journals Global and national news First-hand experience	It appears that extreme weather events are going to happen more regularly	5-10 years	Plausible	Environmental Economic
Big Data Applications	Industry reports Tech websites News Word of mouth	Big Data is becoming more commonly used in the construction industry	1-5 years	Probable	Technological Economic

Sense-Making – Impact Wheel



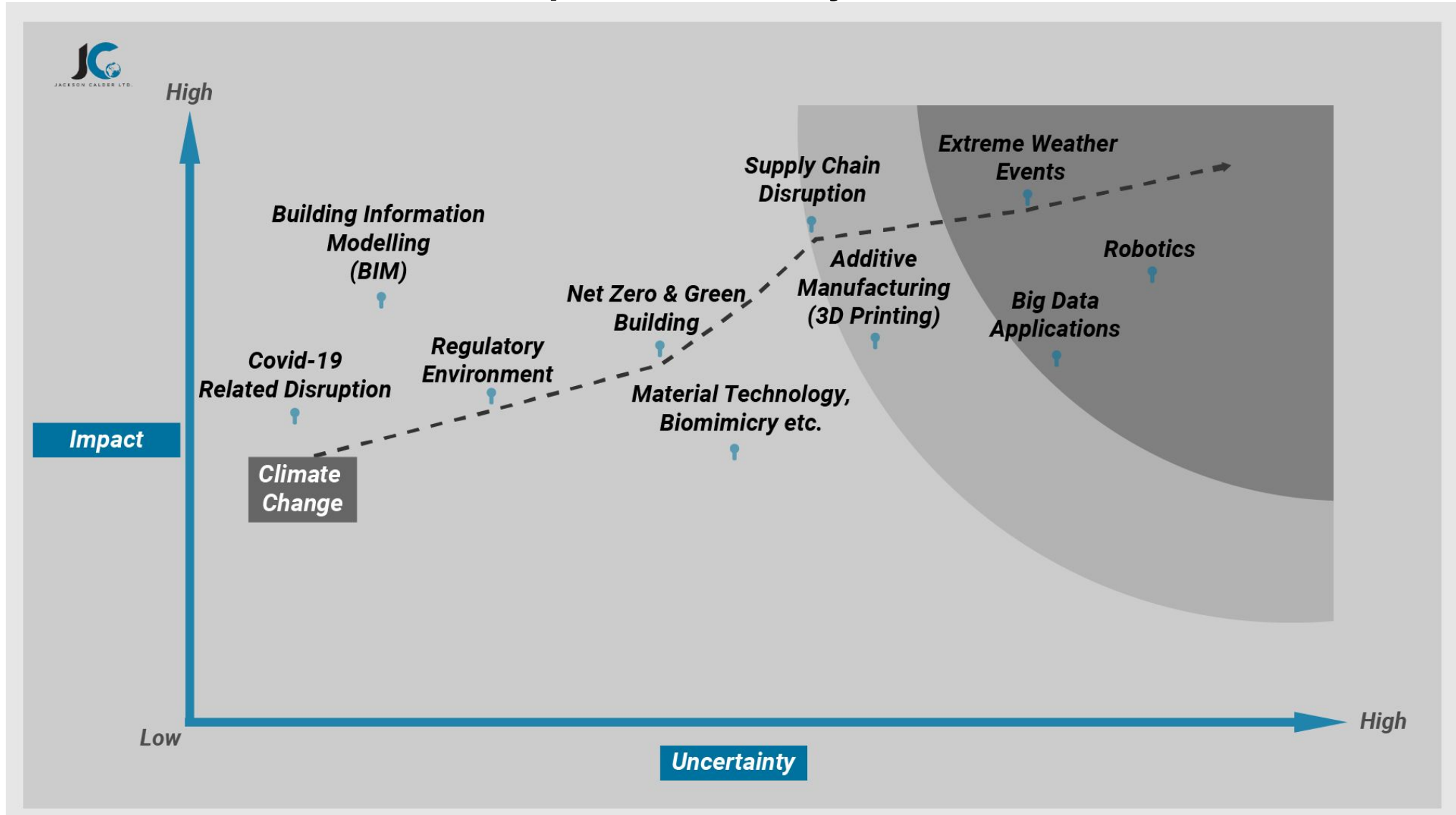
Sense-making: Impact-Uncertainty Matrix

- Plot trends or signals based on:
- How much impact could it potentially have?
- How much uncertainty do we have about how this may develop?
- If you have identified one, plot a Driver.
- The top-right is the Critical Uncertainties Zone.
- Constantly iterate!



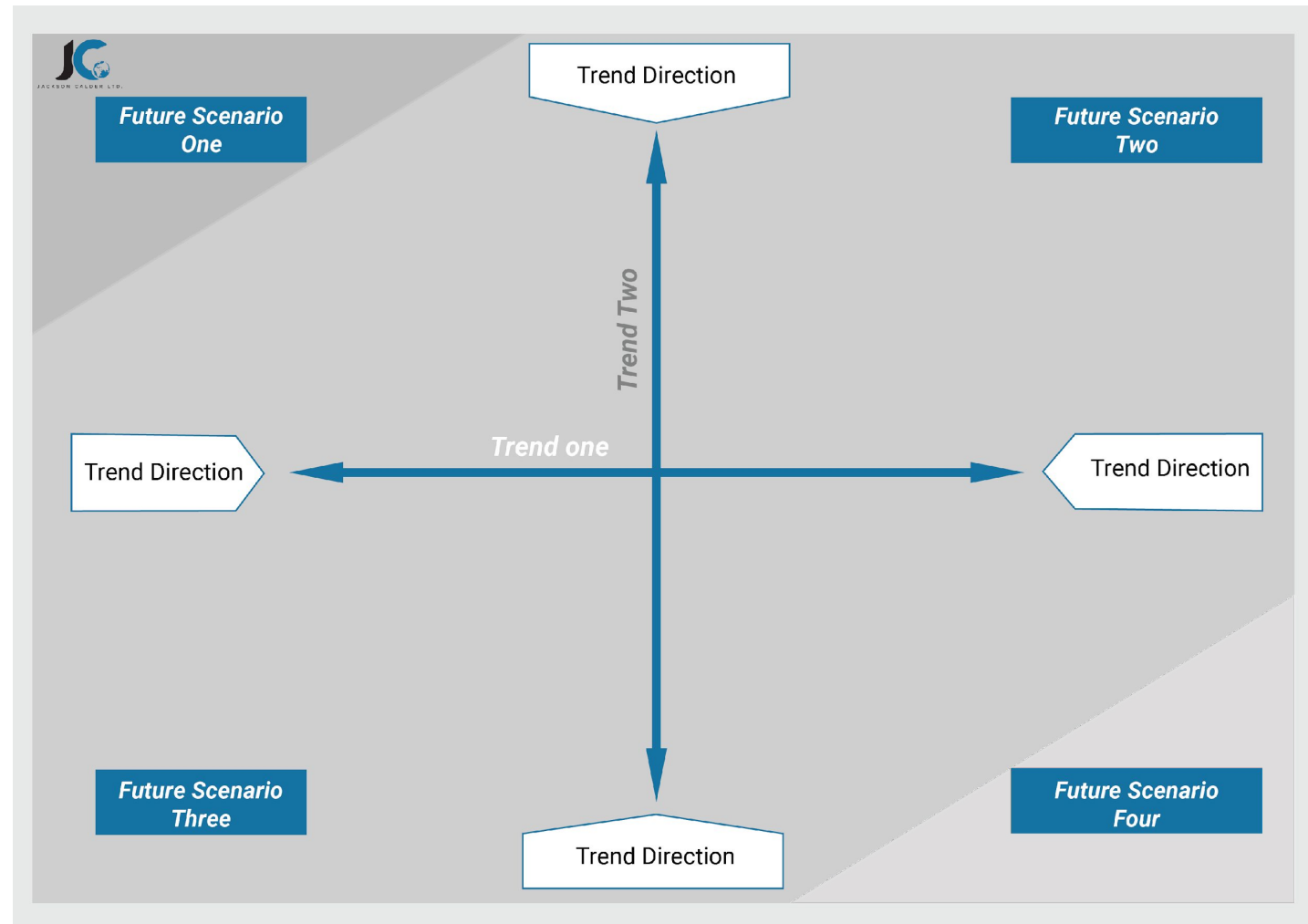
Case studies

Impact-Uncertainty Matrix



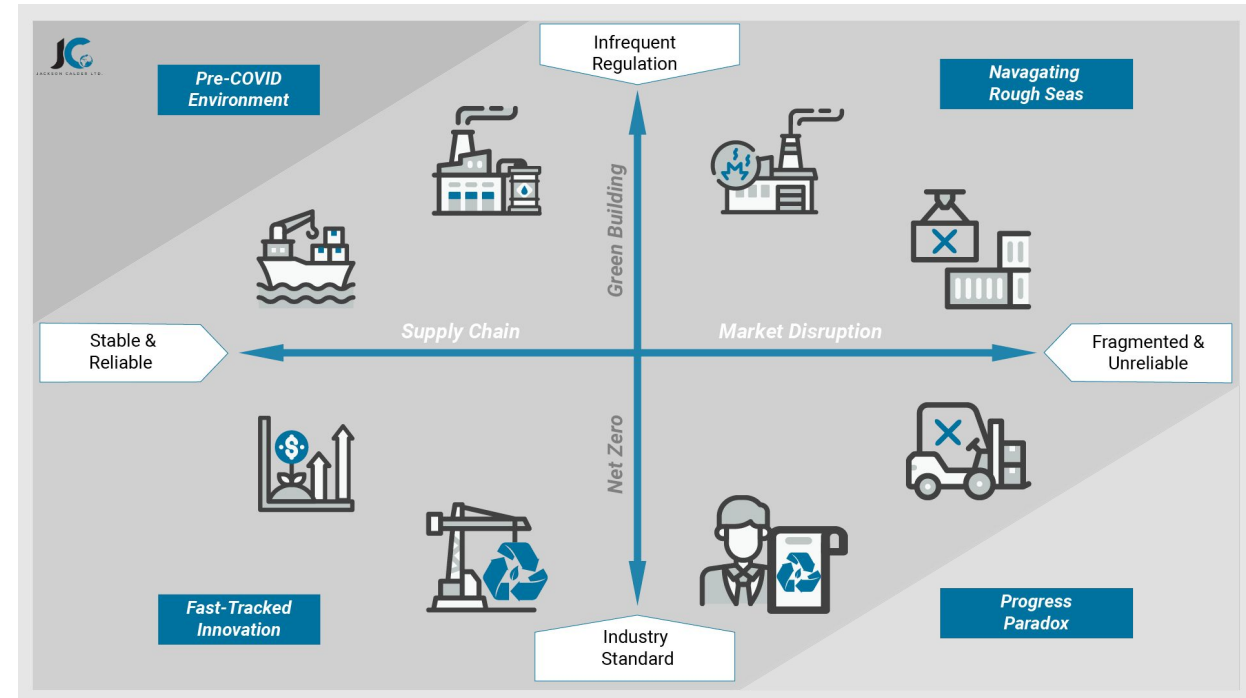
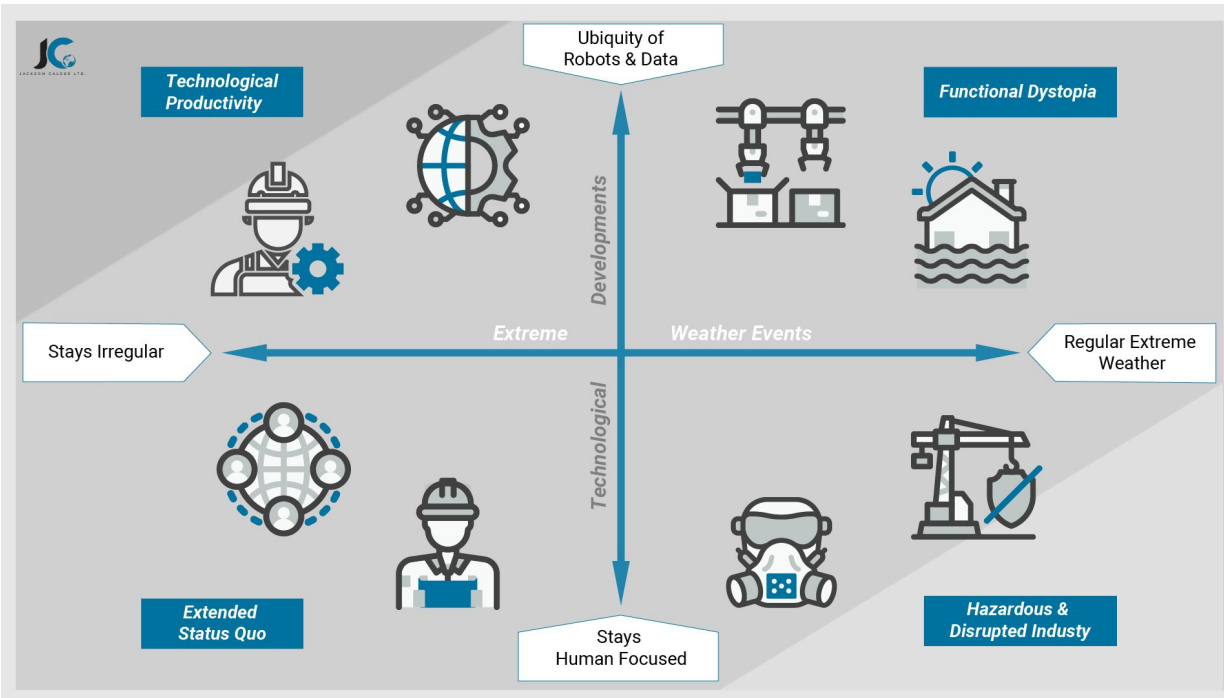
Sense-making: Critical Uncertainties Matrix

- **Extrapolate trends in different directions and see how they may converge in the future.**
- Create four alternative future scenarios.
- Lets you discover what those realities may look like.
- You can expand these scenarios as much as you want.
- Label them as Least Preferable, Worst-Case Scenario, Preferable, Best-Case Scenario, etc.
- What lessons can you draw from these scenarios?



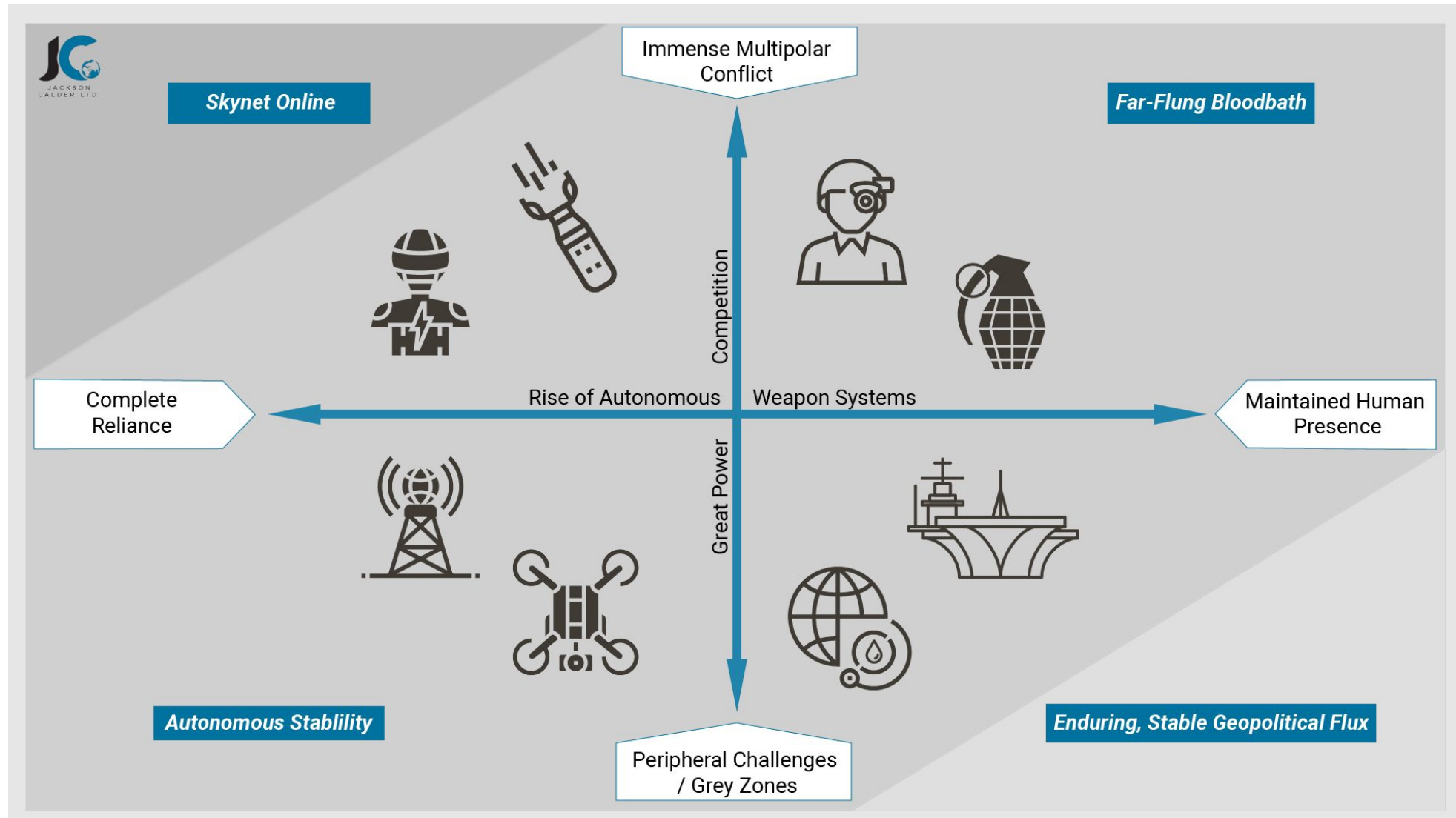
Case studies

Critical Uncertainties Matrix



Case studies

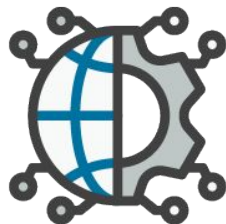
Critical Uncertainties Matrix



Narrative & stakeholder engagement

Scenario One: Technological Productivity – ‘Ubiquity of robots & data’ meets ‘Extreme weather events stay irregular’ – classified as the **Preferable Future**

In 2040 the construction industry is thriving from a revolution in energy efficient materials and processes, an innovative culture, rapid adoption of new technology, and greatly reduced risk leading to lower costs and higher productivity. The global push to achieve Net Zero in the 2020’s has kept climate change at bay and the concurrent rise of biomimetic engineering and powerful big data applications has facilitated truly next-gen building and a sector that’s resilient to external shocks. Sites run on their own localised renewable energy cycles and the ubiquity of robotic systems has boosted productivity. Human workers, paired with robots, utilise Augmented Reality glasses that provide real-time safety analysis, 3D visualizations of their current task, and progress tracking. Worker injuries are exceedingly rare as robots tackle most physical labor requirements, attracting more workers and eliminating staffing concerns. There’s been a shift in the skill value baseline of an average worker across the industry, from hands-on laborers to systems operators, with all companies seeing a larger return on investment when employees are trained to interact with robotic systems and analyse data flows. An innovative culture is entrenched in the industry, with every company having a team of in-house futurists constantly scanning the horizon for emerging technology and spotting risks and opportunities months or years before they materialise.



Scenario Four: Progress Paradox – ‘Net Zero is industry standard’ meets ‘Fragmented & Unreliable Supply Chain’ – classified as **Least Preferable**

The government’s big green regulatory push outpaced the market in this mismatch between idealism and reality. Facing political pressure, the government introduced sweeping reforms in the green building space, forcing construction firms to navigate a volatile supply chain to acquire the latest green materials. Productivity has slumped as shipping delays, higher costs, and increased design risks lead some firms to turn down projects. The government’s push for progress has, paradoxically, hindered progress. The industry is vulnerable to international disruption and many smaller firms have collapsed because of unforeseen geopolitical risks, such as changes to manufacturing and exporting licenses in China and more new technologies being restricted for sale and labelled as sensitive in the United States. New manufacturers have sprung up in New Zealand thanks the government subsidising research and development, but their relatively small scale and expensive materials keep them from being a reliable alternative. The construction industry has a fractured, contentious relationship with the government and negotiations on infrastructure projects are often tense and unproductive.



Narrative & stakeholder engagement

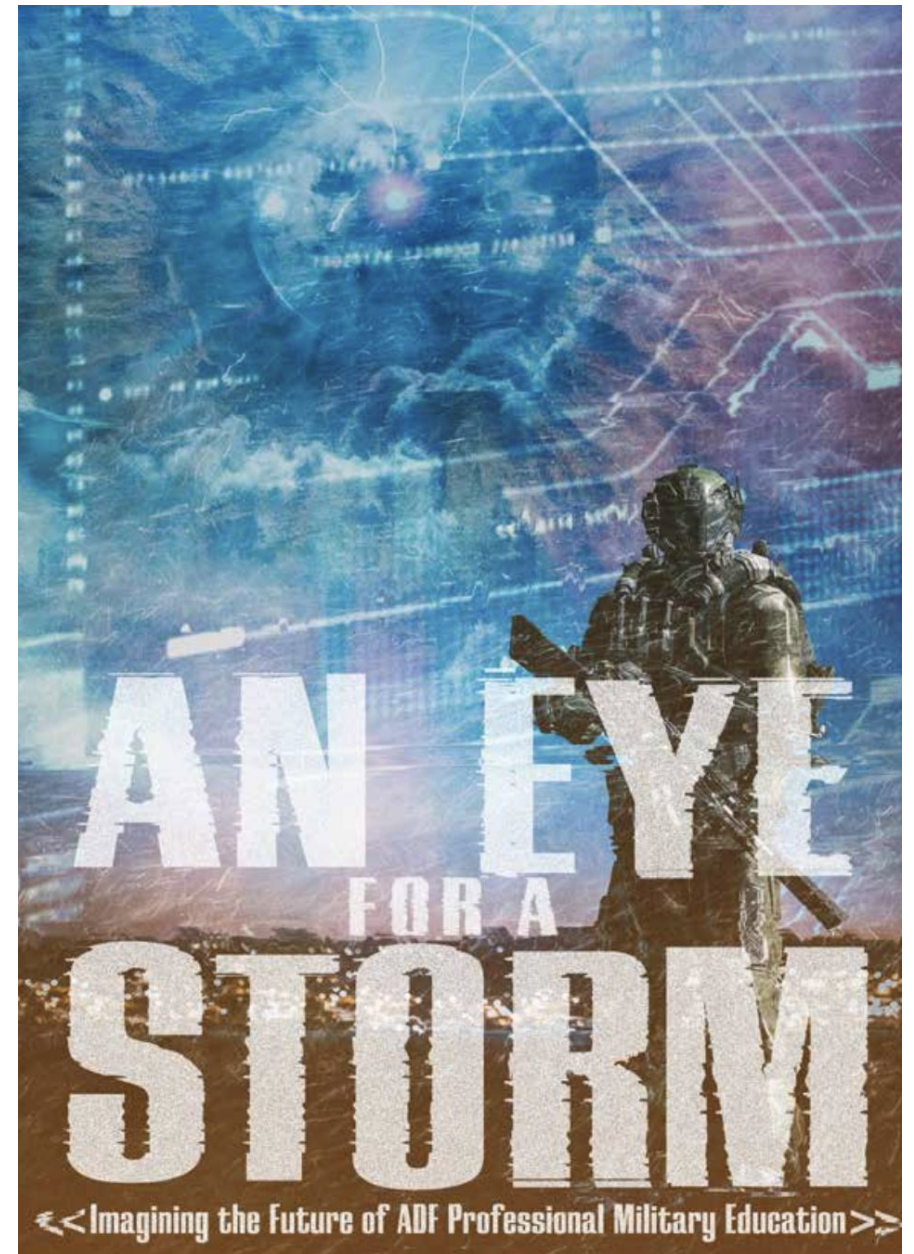
A deliberate blend of narrative and research known as “Useful Fiction”.

Australian Defence Force - Defense Enterprise Learning Strategy toward planning for 2035 and beyond.

Through fictionalized vignettes, the reader sees the emerging real-world trends and technologies that an ADF leader might face in the future.

The key lesson, however, is what being “future ready” truly requires.

- August Cole & P.W. Singer, Useful Fiction LLC, 2021



The future of futures in New Zealand

- **Proliferation** of the 'futuring' **mindset** benefits everyone
- As a discipline, how does it develop?
- Brute force forecasting vs precise use cases?
- Proactive stance: **front-foot futuring!**
- **Act on change**, don't let change act on you
- Looking to the horizon inherently makes us look inwards
- We have never been very good strategists, so let's use foresight

