



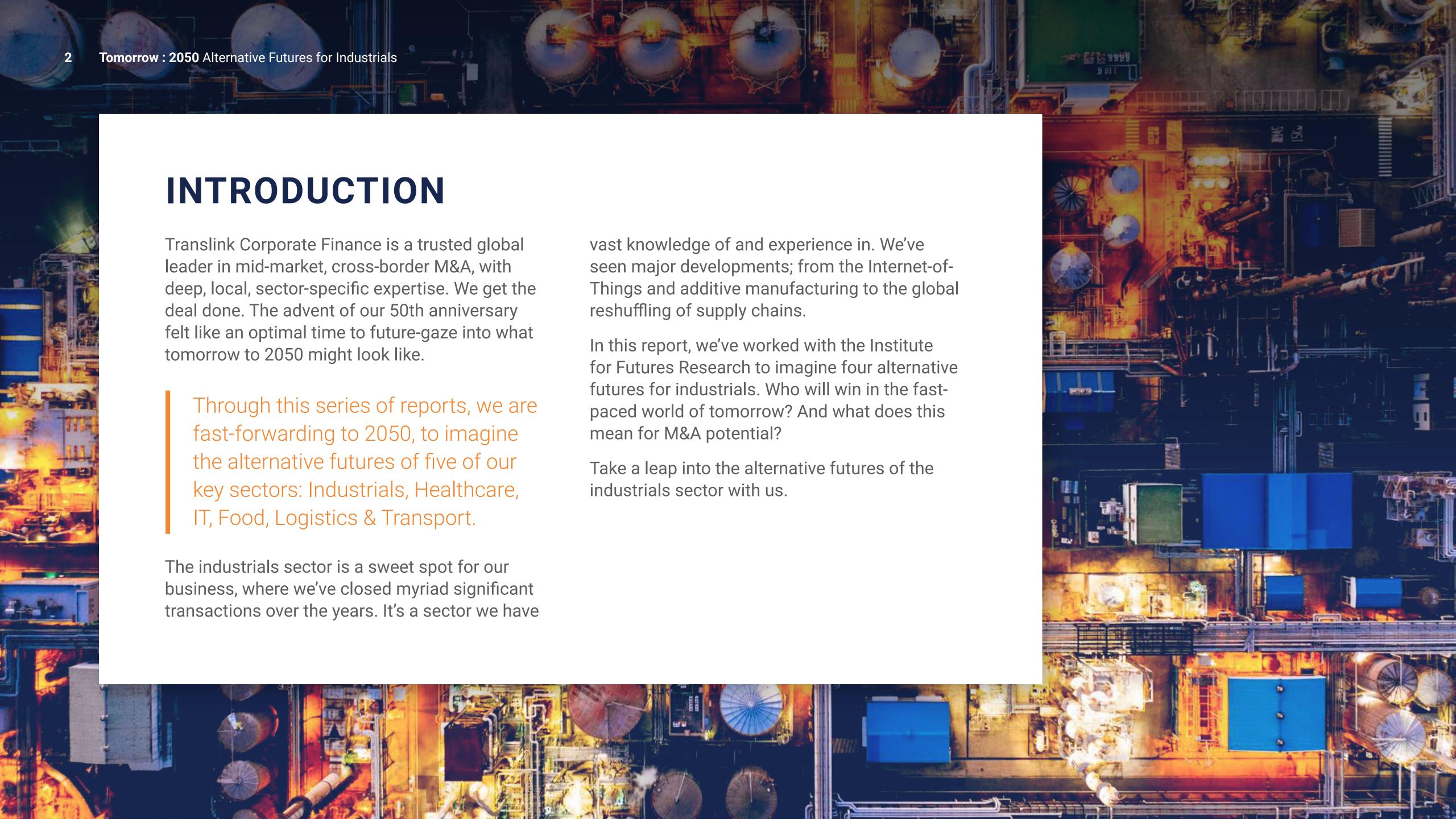






TOMORROW: 2050

Alternative Futures for Industrials



PURPOSE

The purpose of this publication is to explore alternative futures for industrials toward 2050, with particular emphasis on M&A potential at a global level.

Scenario planning exercises are well-known and recognised tools for gaining foresight about plausible futures and identifying key drivers for business growth and the potential influence of future events. To this end, four scenarios are presented. The development of these scenarios was based on a process that first identified the key drivers, from which pivotal uncertainties were distilled. These were then used to craft the scenarios.

Importantly, an inclusive co-creation approach was used from the outset.

CONTENTS

The Process

- **4** Futures thinking principles
- 4 The scenario process
- **5** Timeline
- **6** Driving forces
- **7** The scenario process in action
- **8** Pivotal/key uncertainties & scenario-shaping factors

02

The Scenarios

- **9** The 2050 scenarios
- **10** A deep dive into each scenario
- **11** The first movers win
- 15 The exploiters win
- **20** The assisted firms win
- 23 The innovators win

Conclusion

- **27** The 2050 scenarios in summary
- 28 Conclusion

About & Contact

- **29** About the Institute for Futures Research
- **30** About Translink Corporate Finance
- **31** Translink Industrials Specialists around the world
- **32** Recent industrials transactions

FUTURES THINKING PRINCIPLES

/ THE GROUND RULES



Seek knowledge about those factors shaping the future

We do not make predictions



Craft alternative futures

Understand there is more than one possible future



Explore the issue from multiple perspectives

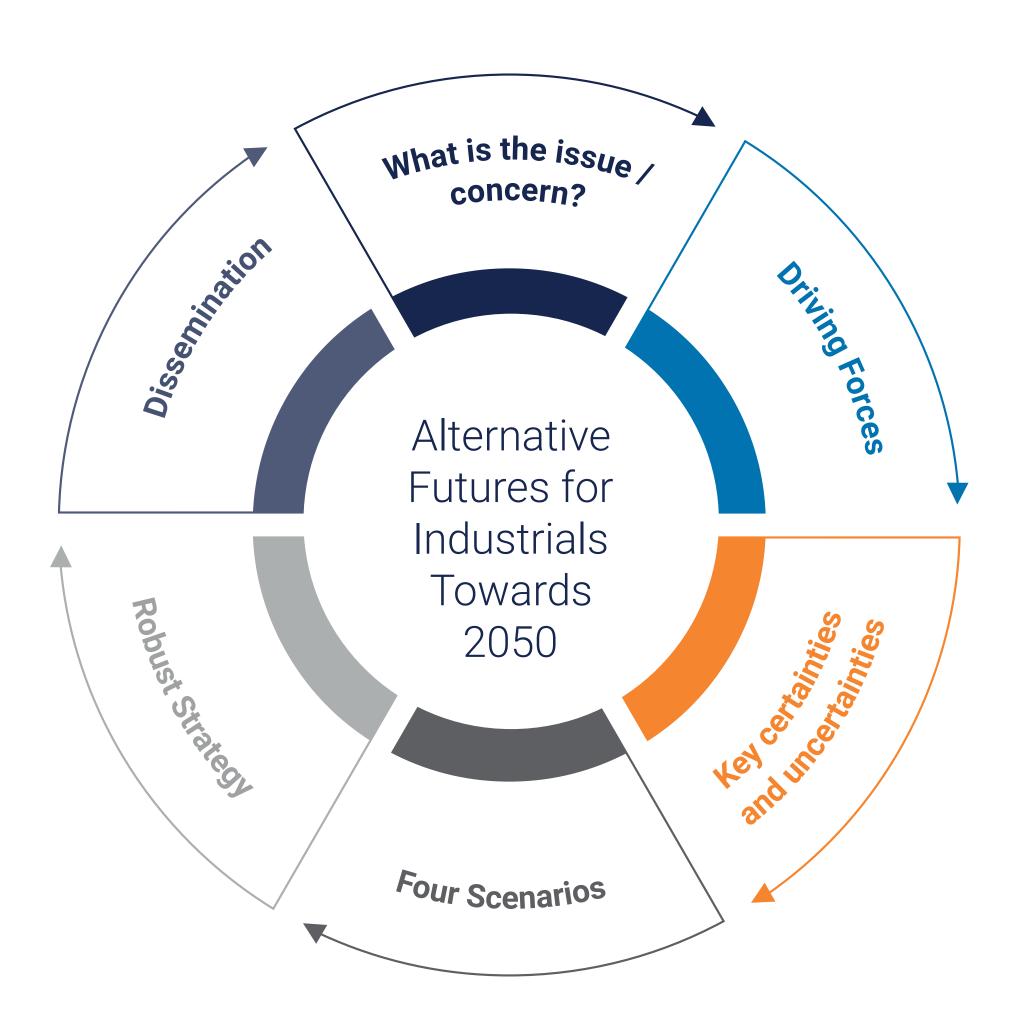
See change as holistic and systemic



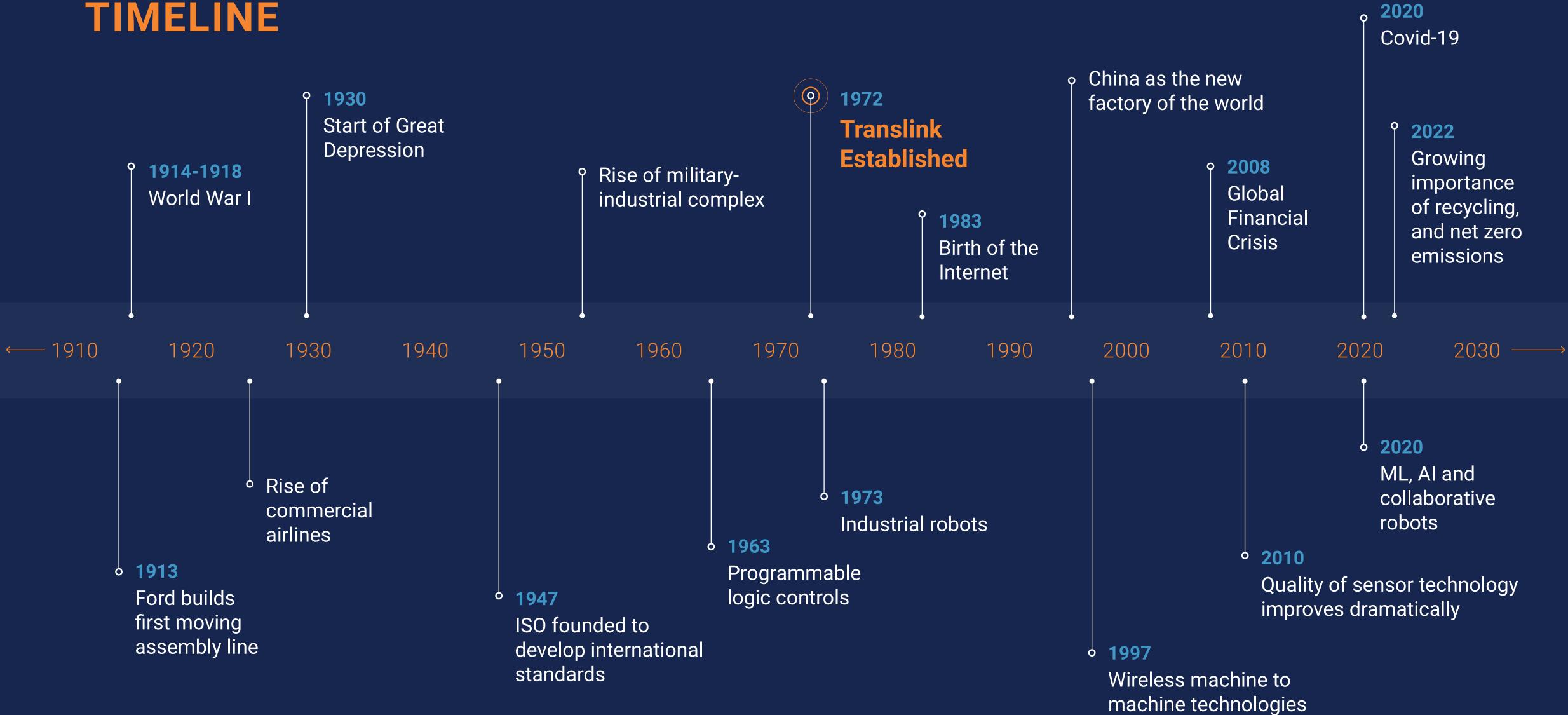
Scenarios offer learning journeys

They enable us to rehearse for the future

THE SCENARIO PROCESS



TIMELINE



Forces that influence the futures of industrials toward 2050

These driving forces were sourced from a comprehensive environmental scan and from think sessions with key stakeholders. This process ensured that the driving forces identified for the industry were as comprehensive as possible.

Conflict	Wars/ cold warsWeaponised interdependencePolitical instability	Technology integration	Digitisation of the manufacturing processInterconnected production linesCustomer manufacturing
Alliances	 Formation of economic blocs Near-sourcing of manufacturing capacity Tension between trade promotion and infant industry protection 	Inconsistent technology implementation	 Installed infrastructure not suitable for the digital industry Employees not suitably qualified; scarce skills and talent Lack of creativity
Policies	 Policies to promote industrialisation Localisation policies; economic participation policies 	Future	 Data security and legal issues Industrial Internet of Things
Macro-economic	 Trade, financial and tax policies Developing countries' upliftment priorities 	Competition/ antitrust Other laws, regulations, policies, reporting obligations	 Advanced materials; additive (3D) manufacturing Authoritarian public interest factors considered in merger control Special scrutiny of acquisitions of strategic assets
	Changes in supply chain dynamics		
Micro-economic	 Continued success of incumbents Shrinking boundaries between levels of the supply chain and between industries 		 Impact of technology law and environmental law Governments amending laws to acquire interests in certain companies Impact of companies law, consumer protection law, data protection law, intellectual property law
Meso-economic	Formation of industrial clustersGlobal partnerships		
Business level	 Urgency to become 4IR ready New business models; scarce skills and talent Increase in immaterial capital 	Environmental drivers	 Governments' strategies to speed up mitigation policies in response to the requirements of the Paris Agreement, while simultaneously growing economies Manufacturing companies respecting consumers' demands for environmentally conscious practices Resource scarcity, e.g., water Activism Greening initiatives (recycling, renewables, emissions)
Social macro issues	 Job and income polarisation Rethinking of capitalism Pursuit of the sustainable development goals 		
Social specific issues	 Impact of artificial intelligence on jobs Interventions to overcome spatial legacies The effects of the Covid-19 pandemic 		

THE SCENARIO PROCESS

/ IN ACTION

Once the **driving forces** were established by the research team and ratified by the participants of a scenario planning think day, they were further evaluated. Each driving force was assessed for its level of uncertainty and the extent to which any shifts could influence the scenario scope.

This process produced the **four key uncertainties**. These four uncertainties were further analysed to identify the **two scenario shaping factors**.





*Definitions Weaponised interdependence refers to the exploitation of control over critical nodes in the global economy to exert geopolitical leverage over competitors. Governments and economic blocs seek domination over the critical connections of the world's supply chains, to ensure strategic leverage. For example, during the pandemic, the Chinese government allowed its domestic semiconductor companies to operate, while foreign-based semiconductor manufacturers were not allowed to do so.

Continued success of incumbents

refers to the level of continued success that existing players in the market could enjoy.

Continued

succ

S

of incumbents

THE 2050 SCENARIOS

First movers win

Existing players with first mover advantage remain successful, and there are limited constraints on supply chains

Limited exploitation of critical nodes of a supply chain

- Weaponised interdependence -

Innovators win

New entrants with innovative offers are successful, and the supply chains are relatively free from exploitation

Exploiters win

Existing players become stronger, new entrants struggle, and critical nodes of supply chains are exploited

Significant exploitation of critical nodes of a supply chain

Assisted firms win

New firms, enjoying high levels of assistance, thrive in the global market, but critical nodes of supply chains are exploited

Incumbents lose dominant position in manufacturing

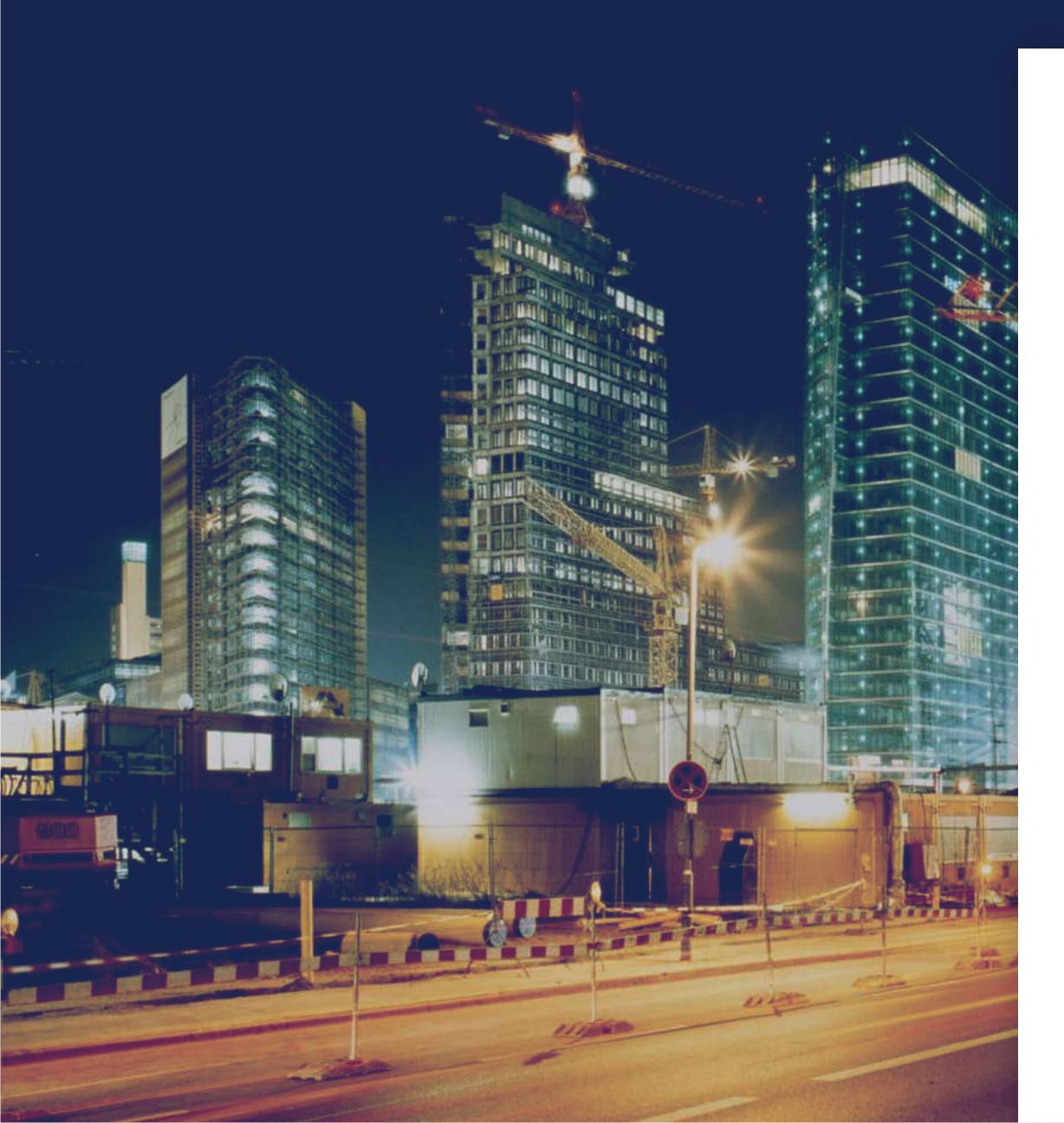
Tomorrow : 2050 Alternative Futures for Industrials







ADEPDIVE into each scenario —





THE FIRST MOVERS WIN

In this future, countries keep their critical strategic nodes but the speed of entry of new players into the market stays sluggish, with existing players manoeuvering their first mover advantage to leverage and cement their market dominance.

Exploring the critical factors catalysing this scenario \rightarrow





- First movers win

Exploiters win

Assisted firms win

Innovators win

Weaponised interdependence is LOW: There is limited exploitation of the critical nodes of a supply chain

Countries managed to protect their critical strategic nodes, because, over the years:

- Governments and Economic Blocs (G&EBs) successfully implemented national and/or regional near-sourcing incentives without significant restraints imposed by opponent countries;
- G&EBs continued to expand global alliances to:
 - manage geo-politics;
 - offer locational alternatives to manufacturers;
 - create flexible cross-border production networks; and
 - develop deeper trade integration.
- G&EBs implemented beneficial tax, trade and financial policies to encourage start-ups to establish their businesses in the local country; and
- · Geo-political tensions were managed and did not impact global trade disproportionally.



- First movers win

Exploiters win

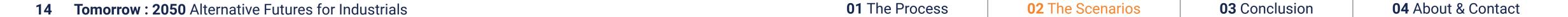
Assisted firms win

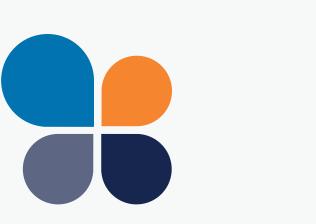
Innovators win

Despite the protection of strategic nodes, incumbents continue to dominate

Although strategic nodes had been successfully protected from foreign influence, the speed of new entry into the market remained slow, because:

- Incumbents benefited disproportionately from the G&EBs initiatives set out in the Assisted Firms Win scenario as the focus was on:
 - the creation of regional industry champions;
 - the creation of small and medium enterprises;
 - the implementation of public-private partnerships, with incumbents having a "foot in the door"; and
 - fast-moving talent, leaving portions of supply chains uncompetitive; and first movers occupying such spaces via mergers, monopolising or duopolising such markets;
- Incumbents had a first-mover advantage based on sunk cost, trained talent, strategic know-how, implementation of new business models, gradual digitisation of plants, the horizontal and vertical initiatives, and excess profits, to be used for further expansion; and
- First movers successfully invested in corporate entrepreneurship and the Industrial Internet-of-Things, exploiting critical value spaces with reference to:
 - customer structures;
 - product complexity;
 - volume of production; and
 - market positions.





- First movers win

Exploiters win

Assisted firms win

Innovators win

What this means for M&A

In this scenario

- · Less geo-political control is exercised in relation to merger control; and
- Incumbents experience rapid growth by acquisition.

In terms of mergers and acquisitions

- Incumbents acquire incumbents within regions (economic blocs) as regional trade and production accelerates;
- Incumbents acquire firms in concentrated sub-markets based on opportunities identified, but not exploited, by mobile talent;
- Incumbents, with a "foot in the door" by virtue of being the incumbents, are party to joint ventures established as part of public-private partnerships; and
- Incumbents acquire digital companies in their infancy to integrate talent within business and remove innovation and talent from the market (killer acquisitions).





First movers win

- Exploiters win

Assisted firms win Innovators win

Weaponised interdependence is HIGH: There is significant exploitation of the critical nodes of a supply chain.

Over the years, manufacturers have struggled to get key production facilities near-sourced because:

- The cost benefits and other advantages in current locations remained significant for manufacturers based in opponent countries;
- Incentives to return to the home country did not compare well with those provided by other countries.

 Manufacturers either remained in the opponent country, or moved to alliance countries, where subsequent complexity did not remove the risk of weaponised interdependence;
- Laws were passed in the opponent country, making it difficult and costly for foreign companies to exit the opponent location (e.g. foreign companies being prevented from moving money out of country for a period post the sale of a plant);
- Also, in the home country, local trade, tax and financial policies were relatively restrictive, so new entrants were disincentivised from establishing new businesses in these areas.



First movers win

- Exploiters win

Assisted firms win Innovators win

Incumbents continue to dominate manufacturing:

New entrants don't last long

New entrants struggled to enter and/or remain in the industrials market, regardless of the large amounts of Government and Economic Bloc (G&EB) assistance that were channelled to innovation projects, because:

- There exists a relatively polarised geo-political system. G&EBs struggled to bring the necessary critical mass to the global project of reindustrialisation and near-sourcing, which hampered the establishment of new competitors;
- · Without appropriate G&EB funding, new players lacked comparable know-how, product and market insight;
- There is insufficient and highly mobile talent in digital manufacturing (Industrial Internet-of-Things);
- The speed of technological progress results in new talent continuously migrating out of newly explored areas into even newer areas; and
- New players do not have the benefit of sunk cost.

First movers win

- Exploiters win

Assisted firms win Innovators win

While new entrants struggled, incumbents have become stronger through:

- The exploitation of strategic leverage over the integrity of hardware products playing a central role in key manufacturing markets;
- The application by opponent countries of more strenuous regulations in relation to foreign firms, over which they have control;
- Incumbents taking over the markets of foreign firms;
- The charging of higher prices, the reaping of higher profits and the expansion of markets by incumbents in opponent countries;
- Horizontal and vertical mergers by incumbents, aimed at capturing key stages of the supply chain from a strategic perspective; and
- Conglomerate mergers, or so-called killer acquisitions of new technology companies and their talent, slowing down the dissemination of innovation and serving to 'lock in' benefits for incumbents to exploit.

- Exploiters win

Assisted firms win Innovators win

What this means for M&A

In this scenario

- · Global mergers take place according to geo-political lines; and
- Some mergers in the industry are blocked on the basis of national security concerns, or approved on the condition that the local business be sold to a national player.

In terms of mergers and acquisitions

- Opponent firms target global supply chains moving the strategic products;
- Opponent firms acquire customers and/or suppliers of competitors to obtain an economic influence over their business (vertical mergers);
- Alternatively, opponent firms enter into long-term contracts with customers and/or suppliers of competitor at favourable prices to avoid merger regulatory scrutiny;
- Opponent firms acquire digital companies in their infancy to remove innovation and talent from the market (killer acquisitions);
- Opponent firms enter into efficiency-enhancing mergers to induce foreign competitors in opponent countries to keep valuing cost advantages and not to relocate;
- Firms in the home country enter into efficiency-enhancing mergers to reach economies of scale and to compete globally on cost;
- Foreign firms in opponent countries enter into joint ventures or long-term toll-manufacturing arrangements with competitors in alliance countries, in an effort to share risk;
- The foreign firm in the opponent country is not acquired by the opponent competitor, but efficiently hampered, so as to allow opponent firms to take advantage of its absence from the market.





First movers win Exploiters win

- Assisted firms win

Innovators win

Weaponised interdependence is HIGH: There is significant exploitation of the critical nodes of a supply chain.

As with the 'Exploiters Win' scenario, the same prohibitive factors apply, forcing manufacturers to struggle to get key production facilities near-sourced. In essence, incentives and cost benefits to remain in opponent countries, or move to alliance countries, outweigh the offerings of a home country. Furthermore, the laws in opponent countries make it difficult and costly for foreign companies to exit.

Incumbents lose their dominant position in manufacturing

Although opponent countries tried to benefit their incumbent firms at the cost of foreign firms based in their countries, new entrants managed to enter and thrive in the global market, because of:

- A more balanced geo-political system (compared to the Exploiters Win scenario) enabling G&EBs to provide more comprehensive, coordinated and successful financial and technical assistance to build and rebuild local and global industrial capacity, with a focus on strategic nodes in manufacturing;
- The creation of "regional champions" (monopolies at economic bloc level) at the cost of national competition objectives;
- The implementation of successful public-private partnerships, international collaboration, international technical think tanks and commercialisation projects;
- A focus on developing countries, which have significant infrastructural needs;
- · A focus on education, skills development and innovation; and
- Ministries of trade and industry prioritising deconcentration and the provision of access to resources, especially for small and medium enterprises and firms controlled by historically disadvantaged persons.



First movers win Exploiters win

- Assisted firms win

Innovators win

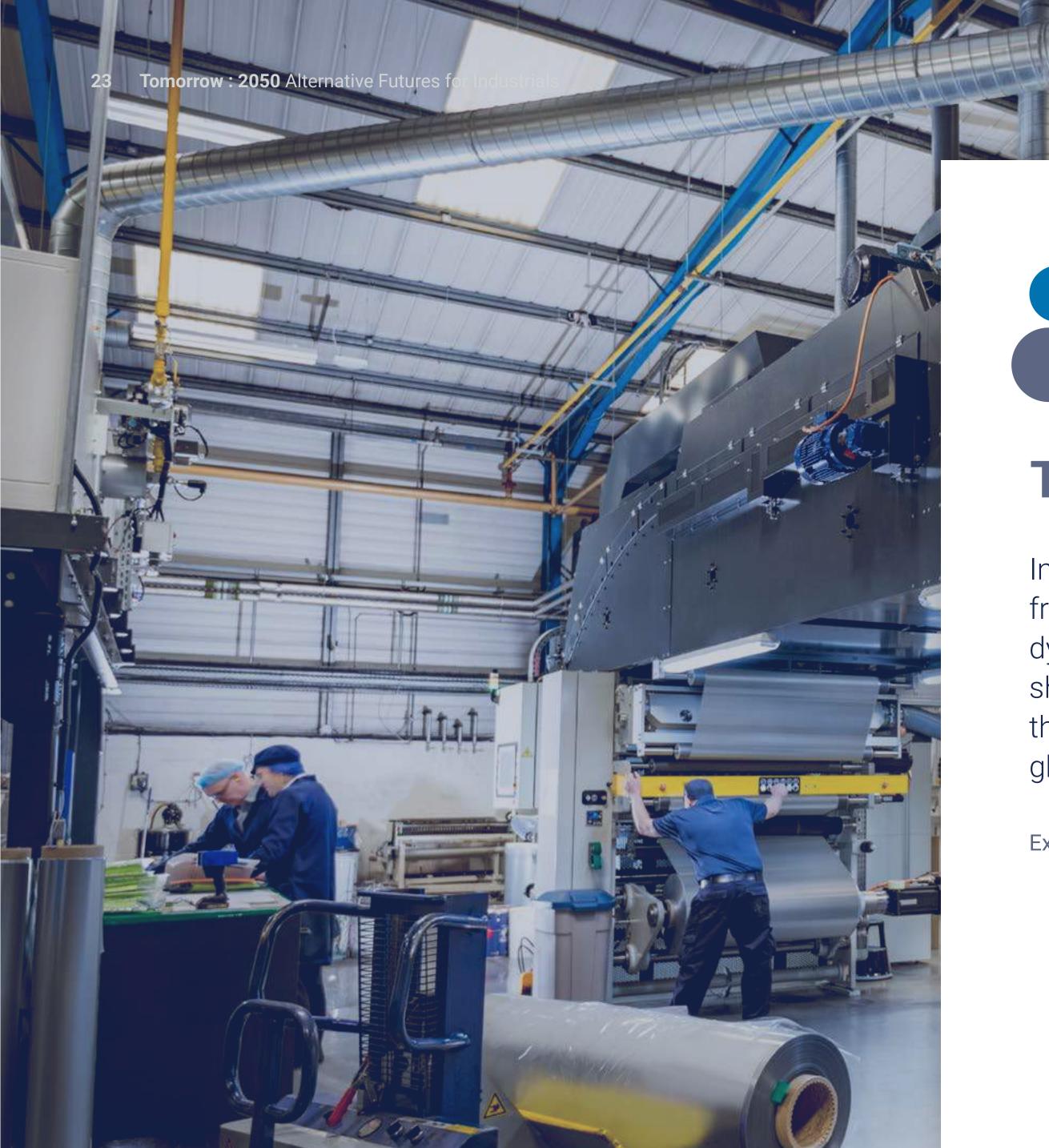
What this means for M&A

In this scenario

- Global mergers take place according to geo-political lines;
- · Greenfields development of industrial plants take place across the globe; and
- A combination of greenfields development and acquisitions (or joint ventures) occur.

In terms of mergers and acquisitions

- "Regional champions" are established, i.e. horizontal mergers at regional (economic bloc) level, even anticompetitive mergers to prevent opponent interests from infiltrating the bloc;
- Manufacturers enter into short- or medium-term public-private partnerships;
- Joint ventures are established with global players in traditional supply chains;
- Minority interests are acquired in relation to non-traditional supply chains, like educational institutions or raw material producers (e.g. cobalt producers), to be able to exercise control over the traditional supply chain;
- Joint ventures are established with players operating in developing countries, having significant infrastructural needs; and
- Joint ventures are formed, with small and medium enterprises benefitting from conditions attached to mergers in developing countries.





THE INNOVATORS WIN

In this future, the supply chains stay reasonably free from exploitation and we see new entrants with dynamic offers win - especially those that capitalise on shifting boundaries, faster product development, and the benefits brought on by collaborative clusters with global tech players

03 Conclusion

04 About & Contact

Exploring the critical factors catalysing this scenario ightarrow

First movers win

Exploiters win

Assisted firms win

- Innovators win

Weaponised interdependence is LOW: There is limited exploitation of the critical nodes of a supply chain

Just as in the 'First Movers' scenario, exploitation of critical nodes of supply chains are low, due to countries managing geo-political tensions well, and Governments and Economic Blocs (G&EBs) expanding global alliances to develop deeper trade integration and create flexible cross-border production networks. This occur without significant restraints imposed by opponent countries. Furthermore, start-ups are encouraged by beneficial tax, trade, and financial policies.



First movers win

Exploiters win

Assisted firms win

- Innovators win

The incumbents lose their dominance as new entrants 'win'

New entrants were able to enter the market and topple incumbents, because:

- The playing field was more equal to start with, which amplified the speed of innovation in an open trade environment;
- The initiatives rolled out by G&EBs did not benefit incumbents disproportionately because of the larger market size and composition;
- New players entered the markets with new technology as they capitalised on:
 - the shifting of boundaries between suppliers, producers and consumers;
 - the shifting of boundaries between industries;
 - end market disruptions, which transformed the upstream market in which the incumbents operated;
 - the need for faster product development; and
 - the need for shorter life-spans of manufactured products.
- In contrast to corporate (internal) entrepreneurship, new players formed collaborative clusters with global technology companies to test and commercialise ideas. Such collaboration led to:
 - manufacturers having access to the very latest technologies;
 - The creation of brand-new solutions; and
 - suppliers having access to international markets;
- New entrants' collaboration with peers helped them to:
 - target new markets with products that were superior to legacy products; and
 - served consumers at a fraction of the price compared to incumbents.



First movers win

Exploiters win

Assisted firms win

- Innovators win

What this means for M&A

In this scenario

- Incumbents still prefer growth by acquisition; and
- Innovators, new entrants and small and medium businesses engage in "smart" acquisitions, with non-traditional partners, leading to rapid exploitation of brand new markets.

In terms of mergers and acquisitions

- Mergers involve global players across levels of the supply chain and across dimensions of new ecosystems created by new technology;
- Non-traditional partners merge to establish brand new products or technology;
- Mergers serve to shorten the supply chain;
- Mergers are born from end-market revelations; and
- International joint ventures and cooperation agreements are commonplace between digital and traditional manufacturing players.

THE 2050 SCENARIOS

What this means for M&A in summary

First movers win

- First mover incumbents acquire other incumbents
- Killer acquisitions happen, where incumbents acquire infant digital companies to integrate talent and to remove innovation and talent from the market
- Incumbents acquire firms who identified opportunities but did not act upon these efficiently because of mobile talent.

Limited exploitation of critical nodes of a supply chain

Weaponised interdependence -

Innovators win

- Mergers involve global players throughout the supply chain and across different dimensions of new ecosystems created by evolving technologies
- Non-traditional partners merge to establish brand new offers
- Mergers are born from end-market revelations and serve to shorten supply chains

Incumbents continue to dominate manufacturing

Exploiters win

- Significant influence from governments and leadership of economic blocs drives vertical mergers as well as killer acquisitions across borders
- Efficiency-enhancing mergers within countries are supported by governments to improve global cost-competitiveness
- Foreign firms in opponent countries enter into joint ventures with competitors in alliance countries in an effort to share risk

Significant exploitation of critical nodes of a supply chain

Assisted firms win

- Regional champions are established to prevent opponent interests from infiltrating a nation or economic bloc
- Public-private partnerships are established
- Interests are acquired, with the aim of exercising control over the traditional supply chain

Incumbents lose dominant position in manufacturing

SS

of incumbents

Translink, as a specialist in the industrials sector, is future-fit and perfectly poised to navigate these new worlds, and their evolving risk landscapes.

Our global team has five decades of deep, sectorspecific experience and on-the-ground local knowledge across six continents.

for industrials in 2050.

We get the deal done. The industrials sector is entering a growth chapter of unprecedented opportunity. Let us partner with you to take your business to the next level, whatever scenario our future-selves may see, now and for the next fifty years and more.







info@futures.sun.ac.za

www.ifr.sun.ac.za

ABOUT

The Institute for Futures Research

The Institute for Futures Research undertakes Futures research, trains corporates and individuals in the use of futures thinking tools, and offers various publications to keep clients updated on what is waiting on the horizon. Overall, our services are aimed at helping clients to acquire strategic foresight in order to make better long-range decisions. This will enable them to sense opportunities and mitigate risks in good time.

Prof André Roux

Head: Futures Studies Programmes Stellenbosch Business School

Doris Viljoen

Director: Institute for Futures Research Stellenbosch Business School

Odie Strydom

Research Associate: Institute for Futures Research Stellenbosch Business School

ABOUT

Translink Corporate Finance

Translink is a trusted global corporate finance group with deep, local, sector-specific expertise. Founded in 1972, we have +300 experts covering 35 countries on six continents. We've closed deals in almost every sector imaginable. Our powerful partnerships around the world set us apart. In some industries, we have pooled our global expertise to form Industry Groups focused on serving our clients with deeper insights into global developments and knowledge on targets and bidders in the respective markets.

For more information on Industrials, contact:

Henrik Schrøder

Head of Translink Industrials Group and Managing Partner: Translink, Denmark hs@schrodertranslink.dk

TRANSLINK

Industrials Specialists around the world



Henrik Schroder Founding Partner, Denmark hschroder@translinkcf.com



Jacek Korpala



Sally Saunders Partner, United Kingdom ssaunders@translinkcf.com



Eser Becer Partner, Turkey ebecer@translinkcf.com



Jens Borelli-Kjær Partner, Denmark jborelli-kjaer@translinkcf.com





Don Gray Partner, United Kingdom dgray@translinkcf.com



Michael Anderson Partner, South Africa manderson@translinkcf.com



Mohit Mehta Director, USA



mmehta@translinkcf.com



Sami Miettinen Partner, Finland smiettinen@translinkcf.com



Jacques-Henri Rième Founding Partner, France jhrieme@translinkcf.com



Doron Ephrati Co-CEO, Israel dephrati@translinkcf.com



Christian Hörner Partner, Germany choerner@translinkcf.com



Rebecca Zhu Managing Director, China rzhu@translinkcf.com



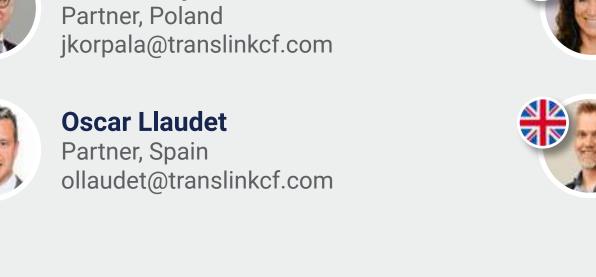
Petra Fischer Partner, Germany pfischer@translinkcf.com



Hairong Wang Director, China hwang@translinkcf.com



Matteo Paggi Managing Partner, Italy mpaggi@translinkcf.com







Recent Industrials
Transactions

For more information on Translink's expertise in Industrials, visit:

https://www.translinkcf.com/industrysectors/industrials/

















