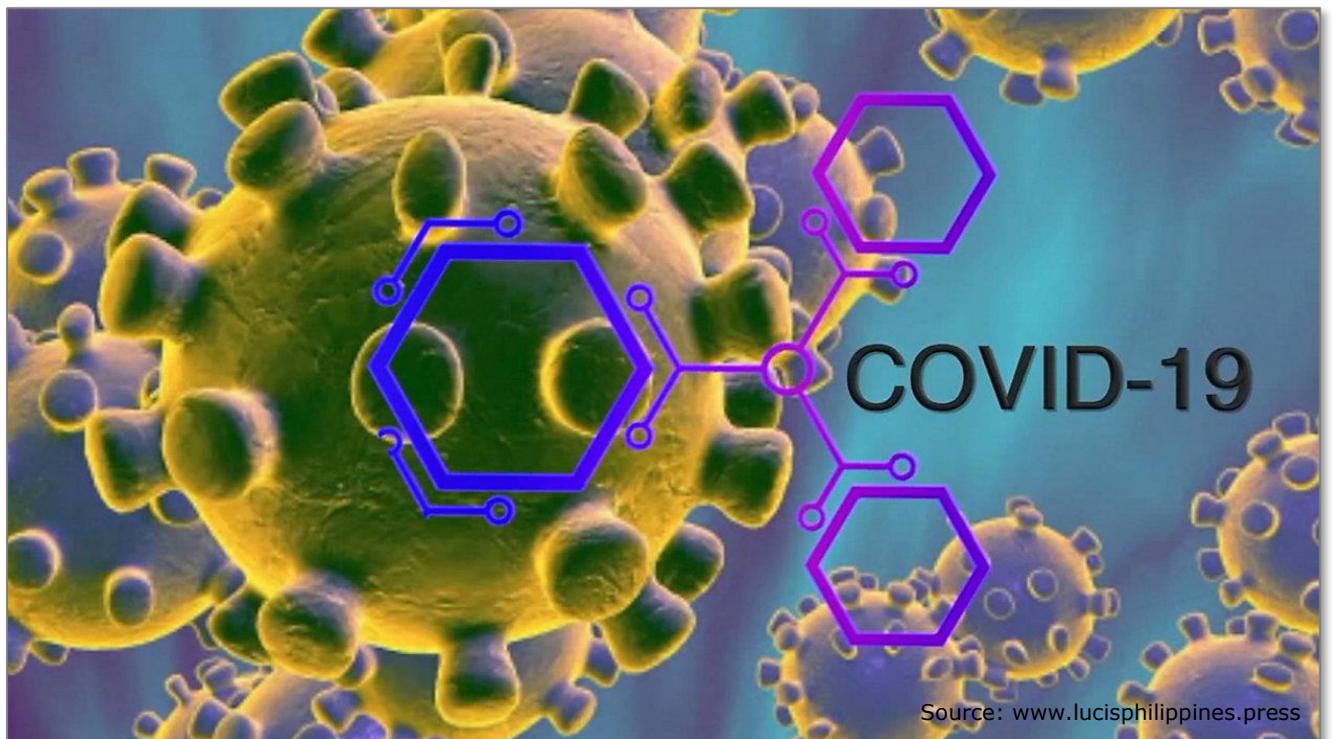


opportunity from uncertainty

scenario planning for the Civil Aerospace and Defence sectors



May 2020

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COVID-19 scenario planning for the Civil Aerospace and Defence sectors.

The Good, The Bad, The Ugly

Summary

Right now, you are working hard to steer your business through the fallout of the COVID-19 pandemic, but what happens next? Thoughts are likely to turn to the time beyond the immediate crisis.

When will it end? How deep will it be? Will the World ever be the same again?

Although the answers to these questions will have a profound effect on your business, it is certain that nobody knows. So, what can you possibly do to plan for and take advantage of an uncertain future?

Achieving the Difference has applied Scenario Planning to this current crisis to consider three possible futures and their potential impact on the Civil Aerospace and Defence sectors.

Aerospace and Defence companies have shown a great willingness and flexibility to apply their competencies to adjacent industry sectors, such as Biotech. This adaptability should provide opportunities to generate revenue, whilst diluting dependence on their traditional markets.

In conclusion, organisations that adopt a willingness to plan for unexpected events in all domains, positive and negative, will be best prepared to take advantage of the opportunities that arise.

Introduction

This paper considers potential futures for the Civil Aerospace and Defence sectors, in light of the COVID-19 pandemic.

It describes three scenarios, The Good, The Bad and The Ugly using PEST analysis. This is followed by a focus on the potential impacts on each sector to identify areas of opportunity.

Although this paper concentrates on the current situation and the potential impact of the COVID-19 pandemic, it is important to note that such scenarios should not be treated in isolation.

Scenario Planning

Scenario Planning is the creation of potential futures and the consideration of their implications to your specific situation. It allows you to think the unthinkable and recognise that unpredictable events shape the world. What it is not is *the* forecast for the future.

Scenario Planning can help you: prepare for unpredictable events; expose vulnerabilities and associated risks; indicate uncertainties to track; and identify opportunities.

Three possible futures

The Good, The Bad and The Ugly

Although the first scenario is named The Good, this is in relation to the other two. The Good assumes the pandemic will be globally under control in 4 to 6 months. The Bad assumes partial control in 6 to 12 months. The Ugly considers the pandemic not being under control within 12 months. Each of the scenarios were scrutinised using a PEST analysis to gauge likely global indications, making use of virtual workshoping tools. Summary details are provided in Figure 1.

achieving the difference				
three possible scenarios				
	The Good globally under control in 4-6 months	The Bad partial global control in 6-12 months	The Ugly not under control in 12 months	
SOCIAL	<ul style="list-style-type: none"> • Social media • Social distancing • Privacy laws/social acceptance • Virtual conferencing 	<ul style="list-style-type: none"> • limited restriction of virtual visitors • free to travel • physical distancing relaxed • higher hygiene awareness • release of COVID-19 test 	<ul style="list-style-type: none"> • wide acceptance of virtual visitors • travel restrictions on some territories • physical distancing partially relaxed • extreme hygiene measures in some territories • release of COVID-19 test in some territories 	<ul style="list-style-type: none"> • travel severely restricted • physical distancing enforced • acceptance of online delivery of products, services and education • extreme hygiene measures • highly enhanced data tracking rights
TECHNOLOGICAL	<ul style="list-style-type: none"> • rapid innovation for digital technologies and additive manufacturing • 3D printing technology applied to bio-supply • additive 3D • virtual tools • contractary 	<ul style="list-style-type: none"> • wide acceptance of digital technologies and additive manufacturing • 3D printing technology applied to bio-supply • additive 3D, limited to some territories • advancement of virtual tools • development of alternative 3D to production 	<ul style="list-style-type: none"> • high uptake of digital technologies and additive manufacturing • 3D printing technology applied to local bio-supply • virtual not available • rapid generation of virtual tools • timely use application of 3D to production 	
ECONOMIC	<ul style="list-style-type: none"> • global GDP decline 2020, no growth 2021 • slow growth through 2022 • minor changes to working practices • short term resource challenges • supply chain easily available 	<ul style="list-style-type: none"> • global GDP decline 2020 and 2021 • slow recovery through 2022 and 2023 • severe working practice restrictions in some territories • lack of resources from some territories results in working territorial shortages of medical supplies 	<ul style="list-style-type: none"> • sustained global recession • sustained and healthy • severe working practice restrictions • unavailability of global supply chain and automation results in reactive working territorial shortages of medical supplies 	
ENVIRONMENTAL	<ul style="list-style-type: none"> • global zero emissions in 2050 • rapid demand returns to near normal • offset travel packages come with green shipping attached 	<ul style="list-style-type: none"> • short term improvement in emissions with territorial variations • lower demand for travel • some easing of airline green targets 	<ul style="list-style-type: none"> • sustained energy and climate • practices shift from environment to COVID-19 travel restrictions 	
POLITICAL	<ul style="list-style-type: none"> • nations more focused looking • nationalised public spending • removal of suppression measures • self-enforcement measures 	<ul style="list-style-type: none"> • limits more fortified • increased and highly reduced public spending • timing of suppression measures with territorial variation • ongoing economic demands • hybrid, police from global levels 	<ul style="list-style-type: none"> • continued to buy local • leadership of nations • global health data • continued suppression measures with territorial variation • constraints on public spending • limited economic stimulus available 	

Figure 1. three possible scenarios

The impact: Civil Aerospace

For each of the three scenarios, the impact on passenger and freight traffic, new aircraft deliveries and services has been reviewed.

Following an initial dip, it is anticipated that passenger air traffic would return to near normal levels from about 2022 onwards in The Good scenario. While for The Bad and The Ugly the dip would be expected to be more severe, longer and without a return to pre-COVID-19 levels. Refer to Figure 2.

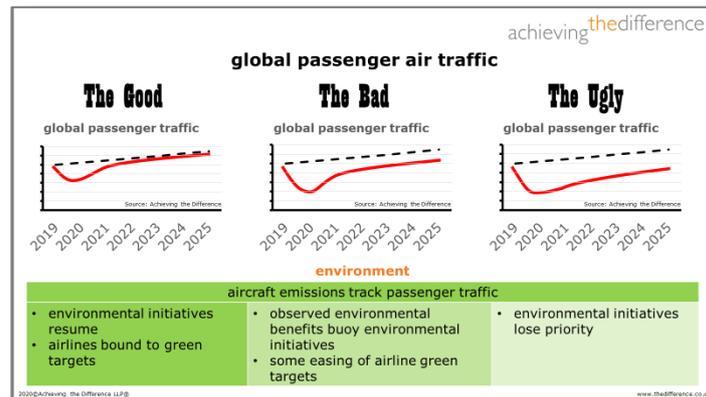


Figure 2. global passenger air traffic

The potential impact on new aircraft deliveries are shown in Figure 3 and indicate that whilst in The Good scenario deliveries could return to near normal by 2025, in the case of The Bad and The Ugly, deliveries may not return to those levels due to significant changes in traffic demand.

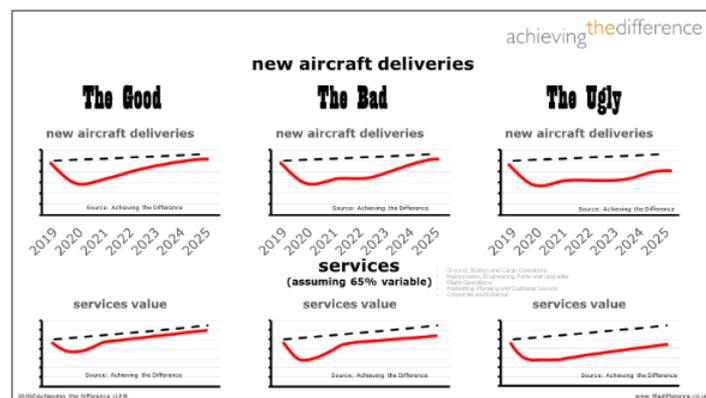


Figure 3. new aircraft deliveries and services

For operating services, it is not anticipated that the drop would be as low as for traffic as it is assumed that around 65% of the cost of services is variable. Figure 3 indicates the predicted levels for each of the three scenarios.

With the ongoing crisis and the need for rapid supply of essential goods, it would be the natural assumption that freight transport would have increased. In reality freight traffic measured in revenue tonne kilometres

(RTK) has decreased. With most of freight normally being carried in the holds of passenger aircraft, the available capacity has been significantly reduced. However, the utilisation of freighter aircraft is extraordinarily high. Charter rates for these aircraft have increased dramatically from pre-COVID-19 levels. So, although all three scenarios predict lower freight traffic, in increasing degrees of severity, the impact is less severe than for passenger traffic. Refer to Figure 4.

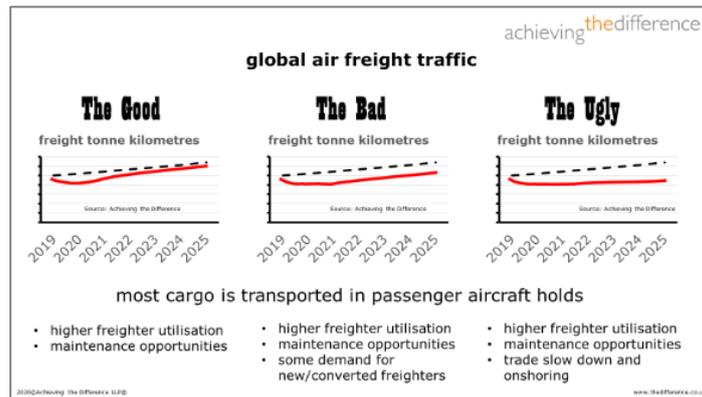


Figure 4. global air freight traffic

The impact on the airline industry is outlined in Figure 5. It is anticipated that in The Good scenario the sector would contract slightly, with a few airline failures and some minor consolidation of operators. The Bad scenario could see many more failures. However, government intervention would be expected to save most. Within Europe, airline bailouts by governments could have carbon reduction strings attached.

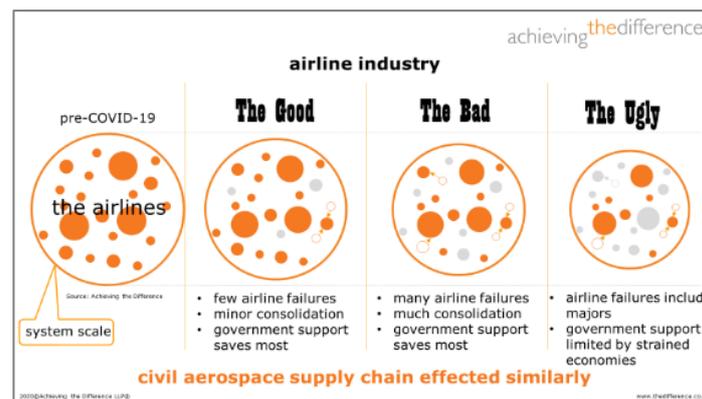


Figure 5. airline industry

In the event of The Ugly scenario significant airline failures, including majors would be expected. Government intervention may be impeded due to considerable strain on their respective economies. It is anticipated similar dynamics would be seen in the Civil Aerospace supply chain.

The impact: Defence

Global military expenditure in 2019 was in the order of \$1.9 trillion, of which around 40% was attributed to the United States. This makes it of key importance to the health and stability of the Defence sector. Refer Figure 6. This figure provides a snapshot of the current situation. It is

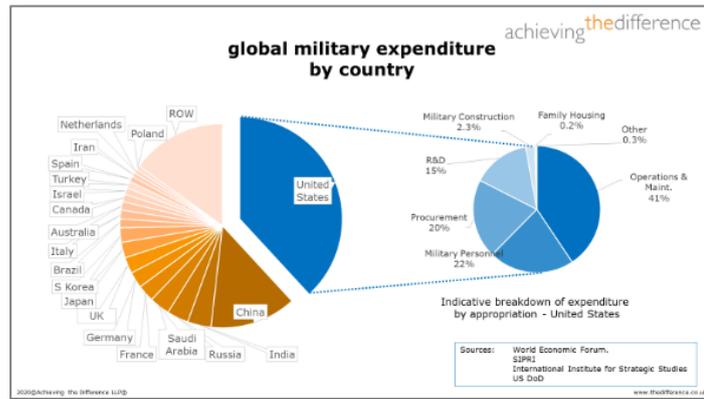


Figure 6. global military expenditure

worth noting that this spend has been volatile over time due to world events. Figure 7 demonstrates this volatility over the period from the 40s to the present day, with peak to trough variations for US military expenditure of between 30 to 40%. It can be concluded that the scenarios analysed in this paper are not unprecedented.

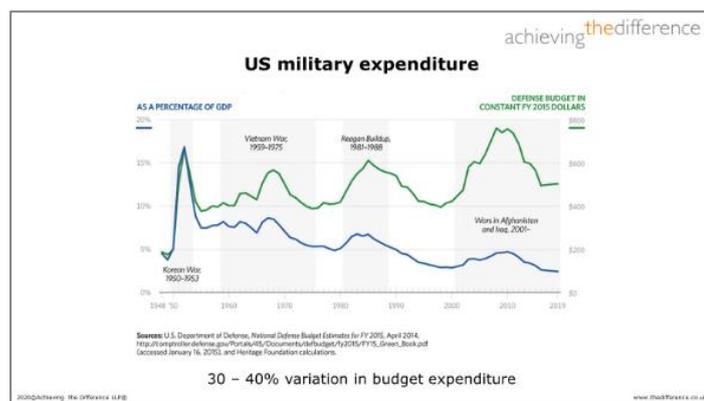


Figure 7. US military expenditure

By analysing predicted potential changes in global gross domestic product (GDP) and projected levels of defence spend as a percentage of GDP, global military spend has been estimated for each of the three scenarios. Refer to Figure 8.

Due to inertia in government spend, in the immediate term it is anticipated that military expenditure would not change from pre-COVID-19 levels, in any of the three scenarios. However, funds may be diverted away from battlefield focused operations to logistical support services.

For The Good scenario, equipment spend may be maintained but shifted to the right. Overseas deployments may be reined-in to the essentials. If The Bad scenario came to pass, military expenditure would be revised and it is likely that there would be significant regional variation, with the re-emergence of 'great-power' competition. NATO partners may see their targets of military spend, (2% of GDP), being realised due to shrinking GDPs in The Good and The Bad scenarios. In The Ugly scenario, with government spend focusing on debt reduction the current structure of the alliance may be in jeopardy.

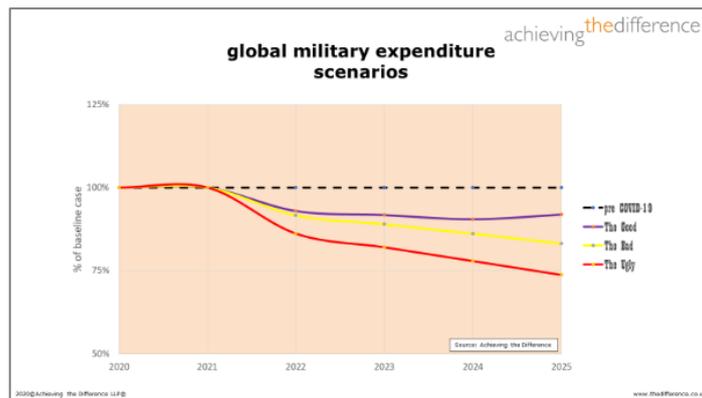


Figure 8. global military expenditure - scenarios

All three scenarios predict global military expenditure levels dropping below pre-COVID-19 forecasts from 2022, with reductions ranging from 10 to 30%. As observed earlier, these would appear to be in line with historic variations. However, this crisis may already be coinciding with an existing dip in Military expenditure. Refer to Figure 3. Therefore, the Defence sector may experience a double dip reduction in military expenditure, resulting in spend reductions from its peak in 2010 of greater than 40%.

Potential opportunities: Civil Aerospace and Defence

The Defence sector is likely to be less volatile than Civil Aerospace. There is likely to be a focus of military expenditure on through life services (TLS) and the expansion of disaster relief and first responder activities.

Areas of potential focus for the Civil Aerospace market would include freighter maintenance and conversion and the storage and tear down of aircraft. Also, any focus on environmental requirements post COVID-19 could prove beneficial to organisations with relevant capabilities.

In both sectors there could be a boost for local supply chains with government motivation to bring onshore critical elements. Those with digitised supply chains have a differentiation advantage. Mergers and acquisition (M&A) may be another area where streamlining of supply and value chains will create opportunity.

As has already been witnessed, Aerospace and Defence companies have shown a great willingness and flexibility to apply their competencies to adjacent industry sectors such as Biotech. This adaptability should provide opportunities to generate revenue whilst diluting dependence on traditional markets.

About us

achieving the difference

...successfully works with clients to help them make strategic decisions with confidence, enabling them to achieve clear competitive advantage. Our clients span many industry sectors including Aerospace, Defence and Security.

To find out how to achieve the difference, please contact us.

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