The Economics of the Defence Industry: balancing self-reliance with interdependence

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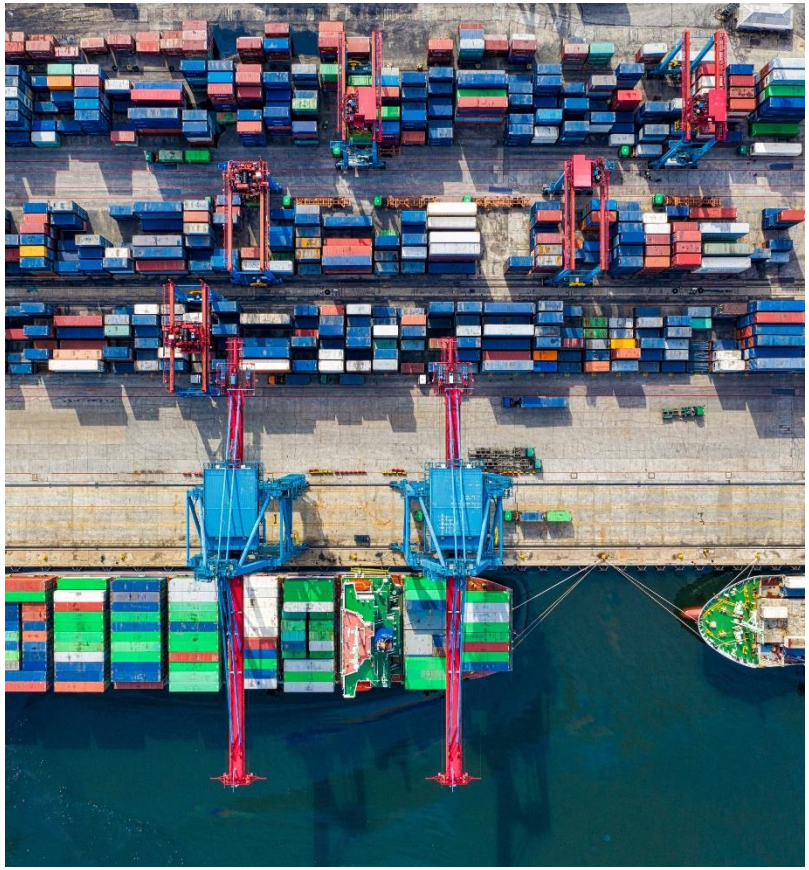
Content of the presentation

- What do we mean by self-reliance in the defence context ?
- Why do most states want to achieve self-reliance in defence industry?
- What are the key challenges in achieving self-reliance?
- Why interdependence for defence industrialisation?
- How to make interdependence work ?
- Recommendations for Malaysia and ASEAN states
- References

What do we mean by self-reliance?

- The ability of a state actor to create a high level of defence capability in a given domain
- The question is: does a nation have all of the capabilities – people, technical and functional capability , infrastructure, logistics and supply chain, equipment and financial means, to develop self-reliance in a given domain?
- No state has the ability to create a totally autonomous defence capability – there is always a supply chain for creating work outside a state; even for the USA



Why do states want to achieve self-reliance?

- Prestige and pride
- A state may be under sanctions or embargo
- To develop industrial and technological capabilities

Examples of self-reliance

- Sweden: aircrafts, tanks, guns
- South Korea: high level of self-reliance with massive industrial capabilities
- Turkey: high level of industrial capabilities driven by investments in people/skills
- Brazil: aircraft industry (Embraer) car industry

(Example Embraer KC-390)

Challenges

- It is very expensive and costly to be self-reliant
- Access to technology
- Integrating and managing the complex weapon systems
- Co-dependence
- National priorities

Cost

- The cost becomes far too expensive – Example of French and Swedish fighters, yet both countries still have many sub-systems from outside their own countries; do it for national pride
- Cost escalation: as per unit costs of defence equipment is increasing exponentially (see ref: https://www.cnas.org/publications/reports/is-the-u-s-military-getting-smaller-and-older)

Complex weapons

- Modern weapon platforms inherently complex, (i.e. they contain multiple complex subsystems)
- Example include the F35, A400M
- Team complex weapons led by MBDA

Access to technology

- Do you have access to the technology you want to acquire to build the defence sub-systems
- Sensitivity of the technologies; frequently classified
- Security of technology, such as patent protection and licensing
- Political question – are you politically aligned to the providers of technology that you require?

Co-dependence

- Relationship and trust building, to get access to the technologies
- Example – Japan and the UK building 6th generation jet fighters due to the trust and relationship in sharing of the technology
- AUKUS – Australia, UK and the US sharing of a sensitive technology platform.

Malaysian example for potential self-reliance

- **Systems integration:** electronics industry manufacturing capability – dual-use value and value in building more complex defence platforms
- **Integrated domain littoral naval systems** (air and sea) including under water submersibles
- **Hybrid/electric military vehicles** – example of Ukraine soldiers using e-bikes plus Next Generation light anti tank weapons (NLAW missiles)

Why interdependence for defence industrialisation?

Costs of funding of a whole system by a single nation is becoming increasingly expensive

Cost of defence equipment increasing faster than defence budgets and less units being procured

Dis-economies of scale effect specific equipment (aircraft/missiles) where costs is high

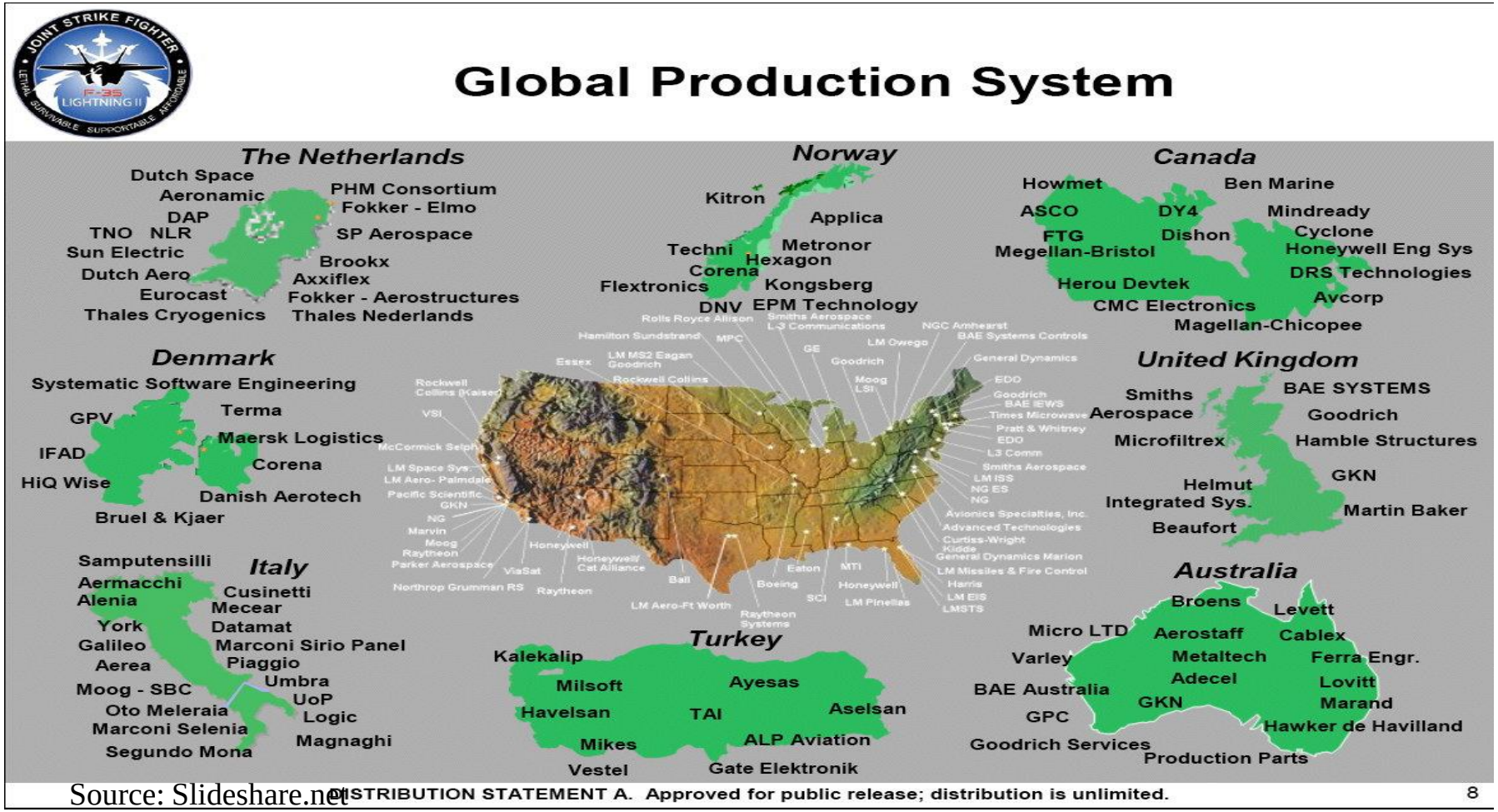
Dynamic geo-political challenges requiring newer technologies to meet armed forces capability requirements

e.g. AUKUS

Examples of defence industry interdependence

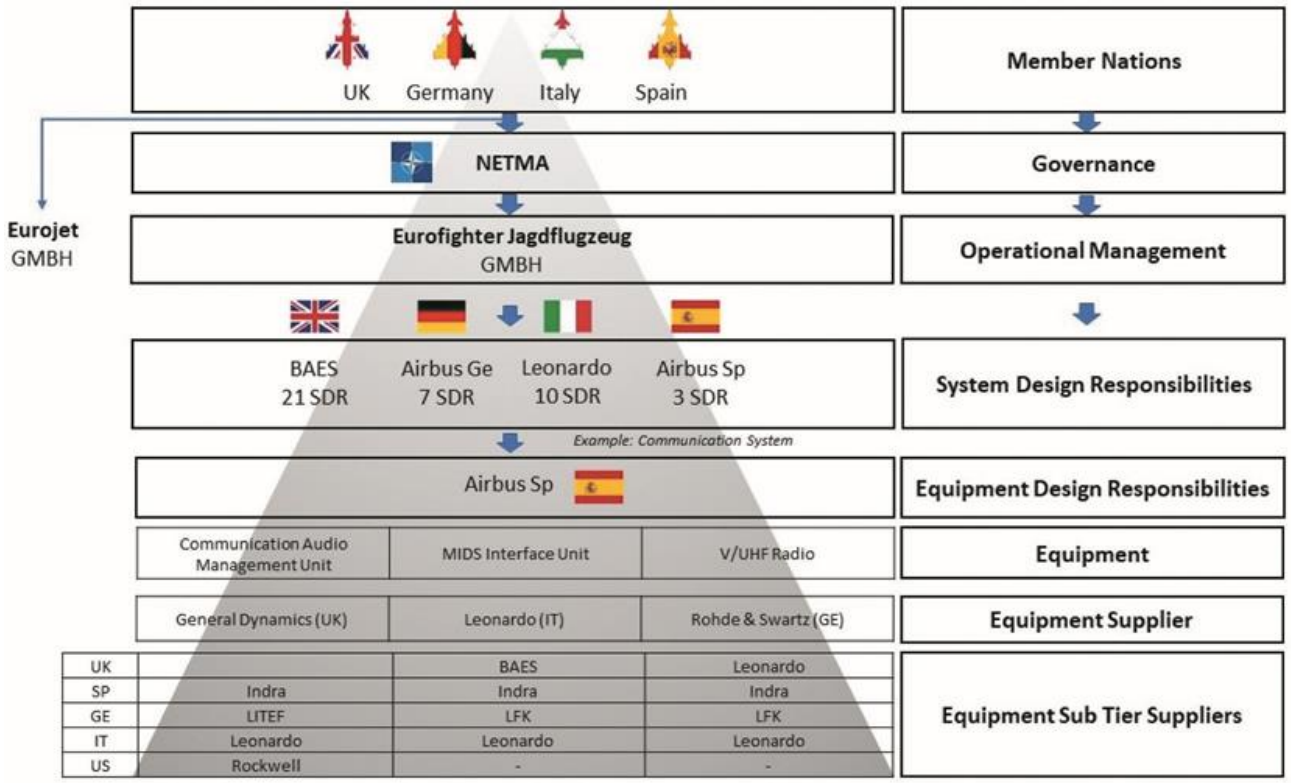
- Classic example of 5th generation fighters- F35, Eurofighters, SU35
- Even single nation fighter aircraft such as Gripens (Sweden) and Rafale (France) all require sub-systems from many countries
- Governments always under-estimate the costs of collaborative working

Example of International collaboration: Joint Strike Fighter (F-35): Global Partnership



Source: Slideshare.net

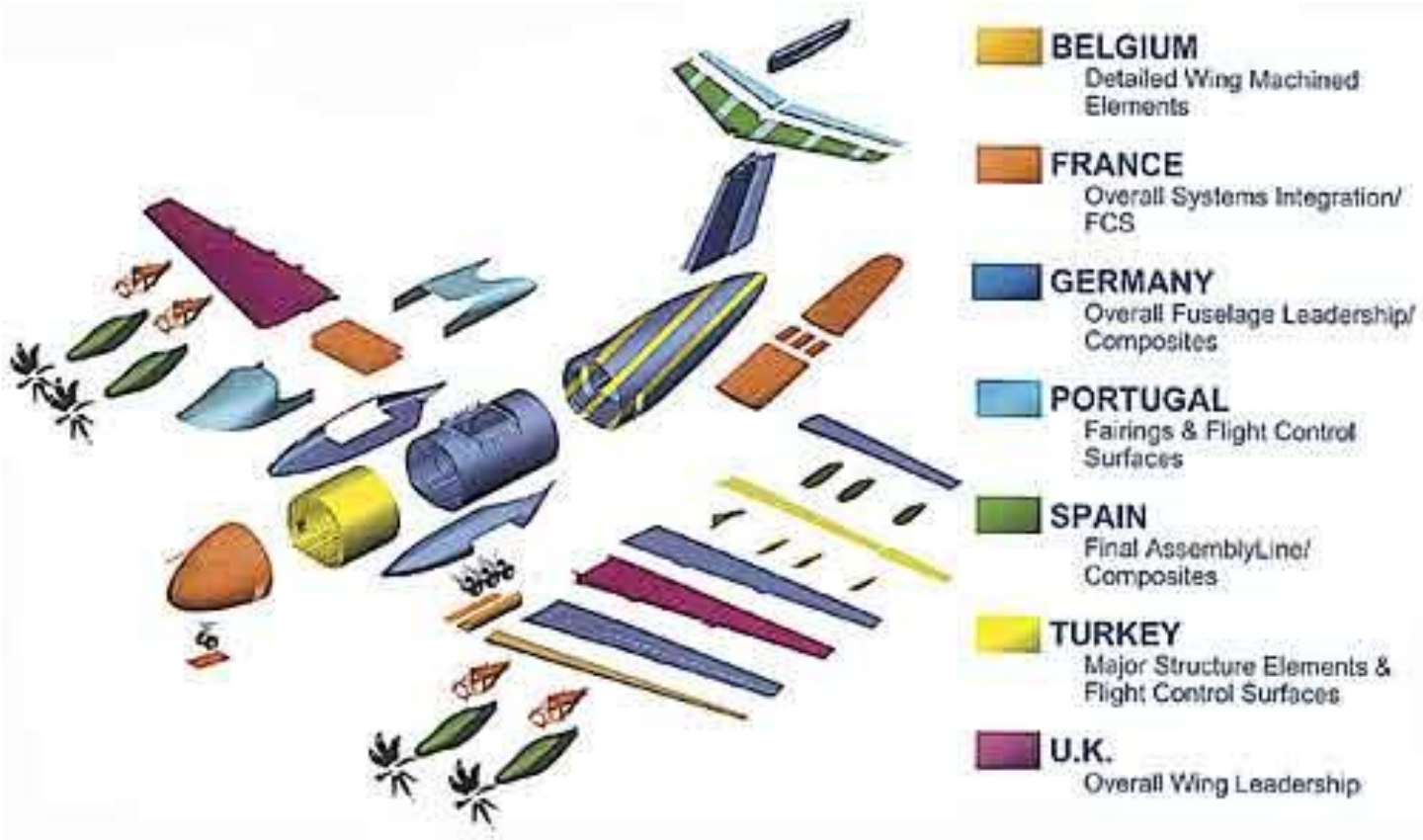
Eurofighter Typhoon



Typhoon Supply Chain. Source: BAES internal document, 29 April 2021

Source: Matthews, R & Al- Saadi, R. ' Organizational complexity of the Eurofighter Typhoon Collaborative supply chain, *Defence and Peace Economics*, Routledge, Vol.

Example of International collaboration:
The A400M international partnership

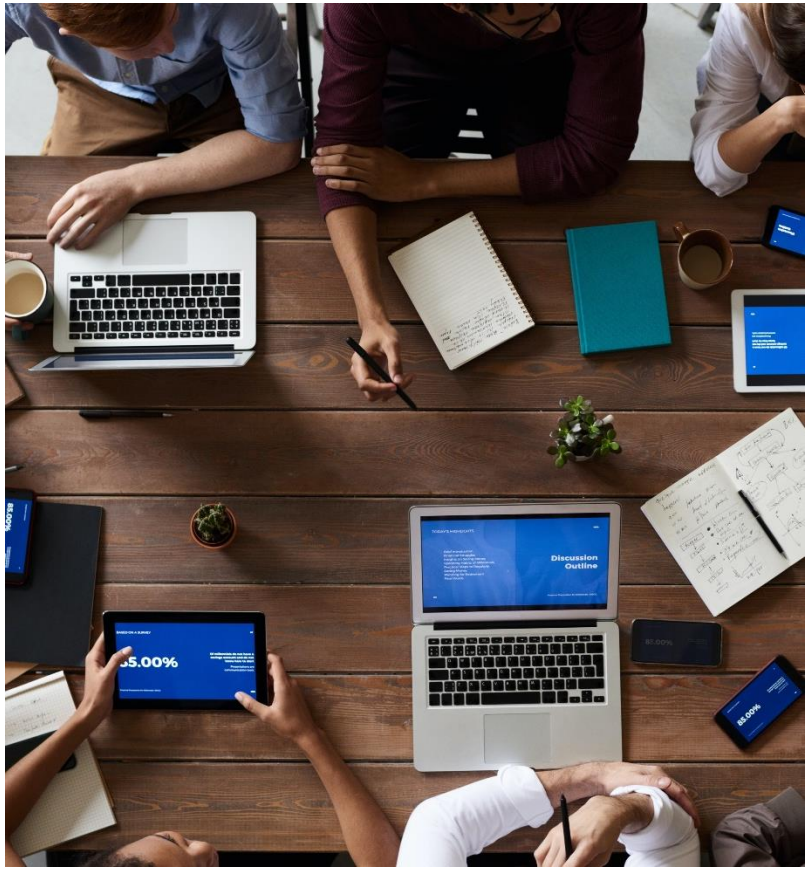


Challenges for interdependence in defence industrialisation

- **Example: EU Defence industrial consolidation -** EU budget, unpredicted impact from COVID 19 pandemic on national defence spending; fragmented and inefficient production, intensifying and global competition.
- **ASEAN Defence industry collaboration** – different priorities, lack of political will and issues with technology sharing

How to work effectively in an interdependent environment

- To what degree are Malaysia and other ASEAN states interdependent?
- One way forward is through greater sharing of information rather than just technology
- Example: share capability for the air-re-fuelling tanker



Recommendation for Malaysia and ASEAN states

- There are inherent limits to self reliance in this domain
- At the political level, transfer of defence technologies requires deep trusted relationships that take a long time to develop
- Focus on short term trust building measures
- Develop mid to long-term, co-dependent technical basis for dual-use technology capabilities

Conclusion

- Self-reliance is always costly so pick and choose priority areas carefully
- Interdependence requires careful partner selection and deep trusted relationship
- Build a portfolio of options based on future capability requirements
- Underlying drivers: consider the ever increasing technical complexity of defence platforms and associated cost escalation

Finally….

This is not a static decision process

Will require continuous repeated political and defence dialogues

Due to the dynamic nature of the threat and geopolitical environment

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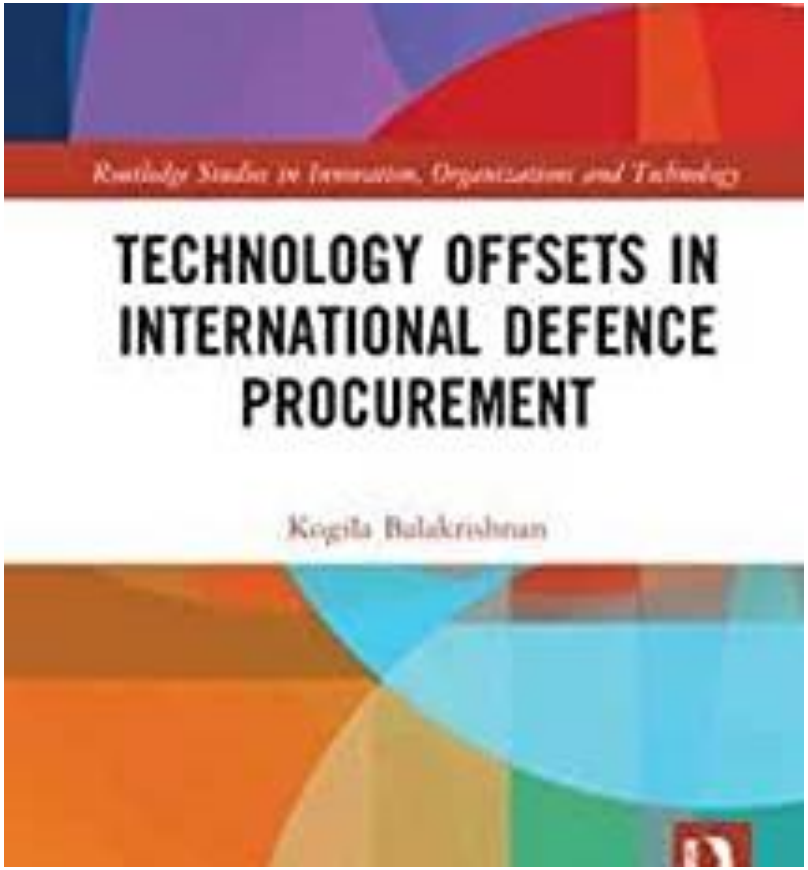
Contact Details



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