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# Evolve or Regress: Building a holistic R & D ecosystem

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# Today's talk:

- What is an 'Ecosystem'?
- Three propositions to improve the evolution of defence r & d ecosystem
- Grand strategic guidance
- Conclusion

# “Ecosystem”

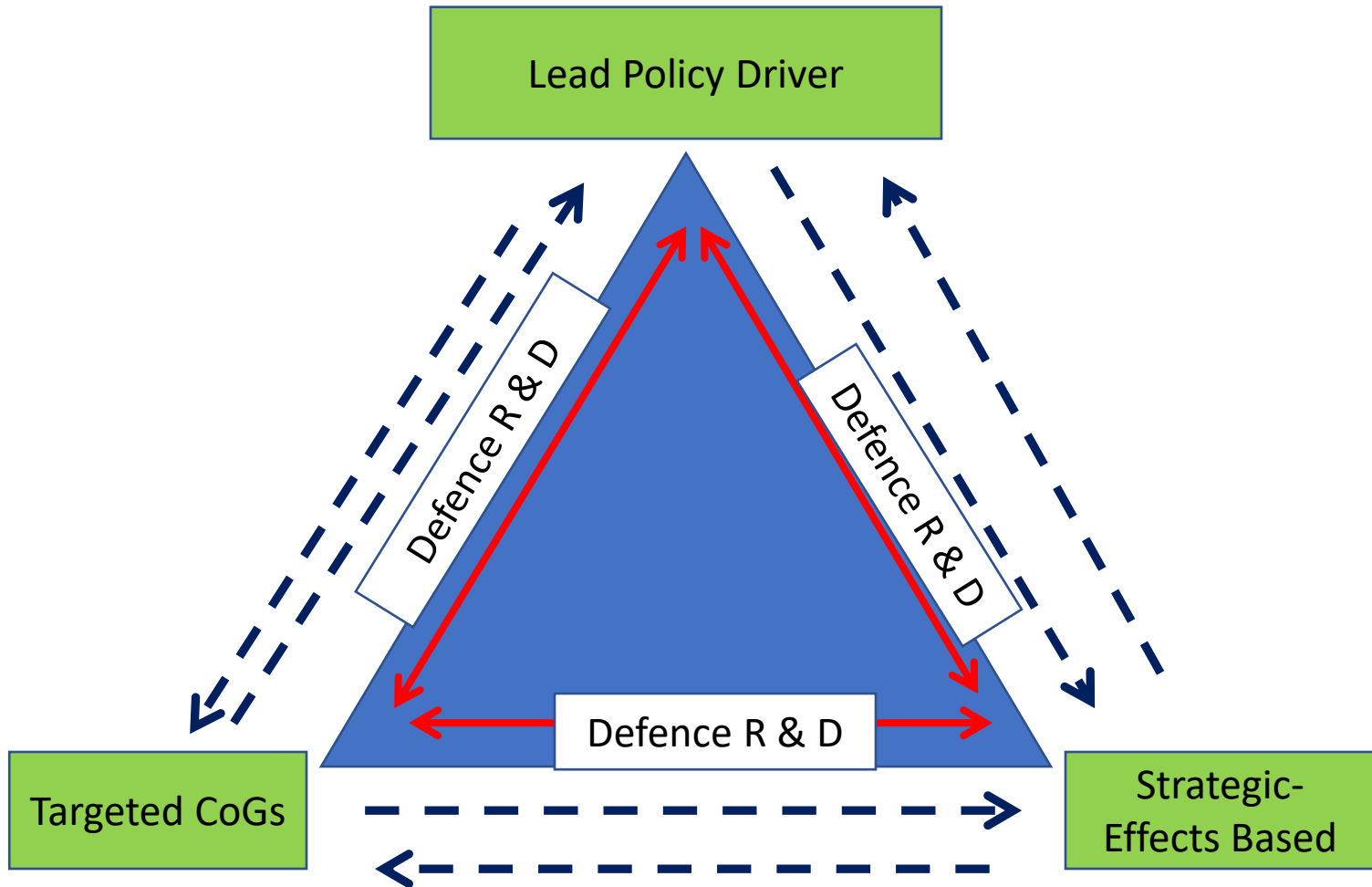
- ‘Eco’ can be defined as either the economic aspects and the ecological aspects in which a whole system works together for mutual benefits but influenced by economic factors.
- ‘System’ is defined as a connective mechanism that connects all the elements of economic and ecological aspects of the defence r & d.

# Evolution

- “Evolution is a process of continuous branching and diversification from common trunks. This pattern of irreversible separation gives life's history its basic directionality.” (Merriam-Webster)
- “Process of change in a certain direction”  
(Merriam-Webster)

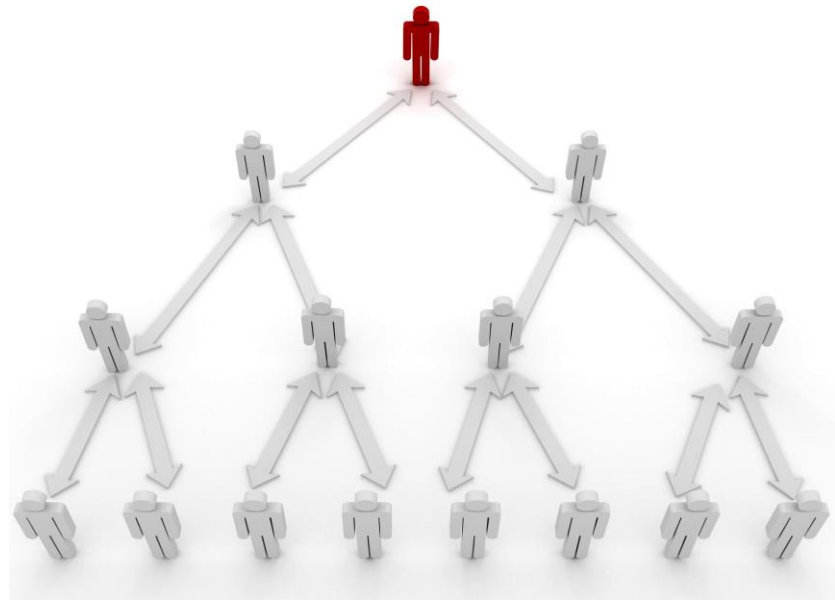


# Evolution Trinity



# 1. Lead Policy Driver

- Top-down
- Private Enterprise-led
- Hybrid
- Malaysia?



## 2. Targeted CoGs

- Clausewitz's Centre of Gravity (CoG)
- What is our strength?
- What is our weakness?
- Where do we target?
- Which R & D CoG to focus on?

### 3. Strategic Effect-Based R & D

- Ends, Ways, Means bridge
- R & D driven by tactical effects for strategic effects
- Build for strategic effect; not following ‘the Joneses’
- Prioritize local defence industry



# Looking back to understand today



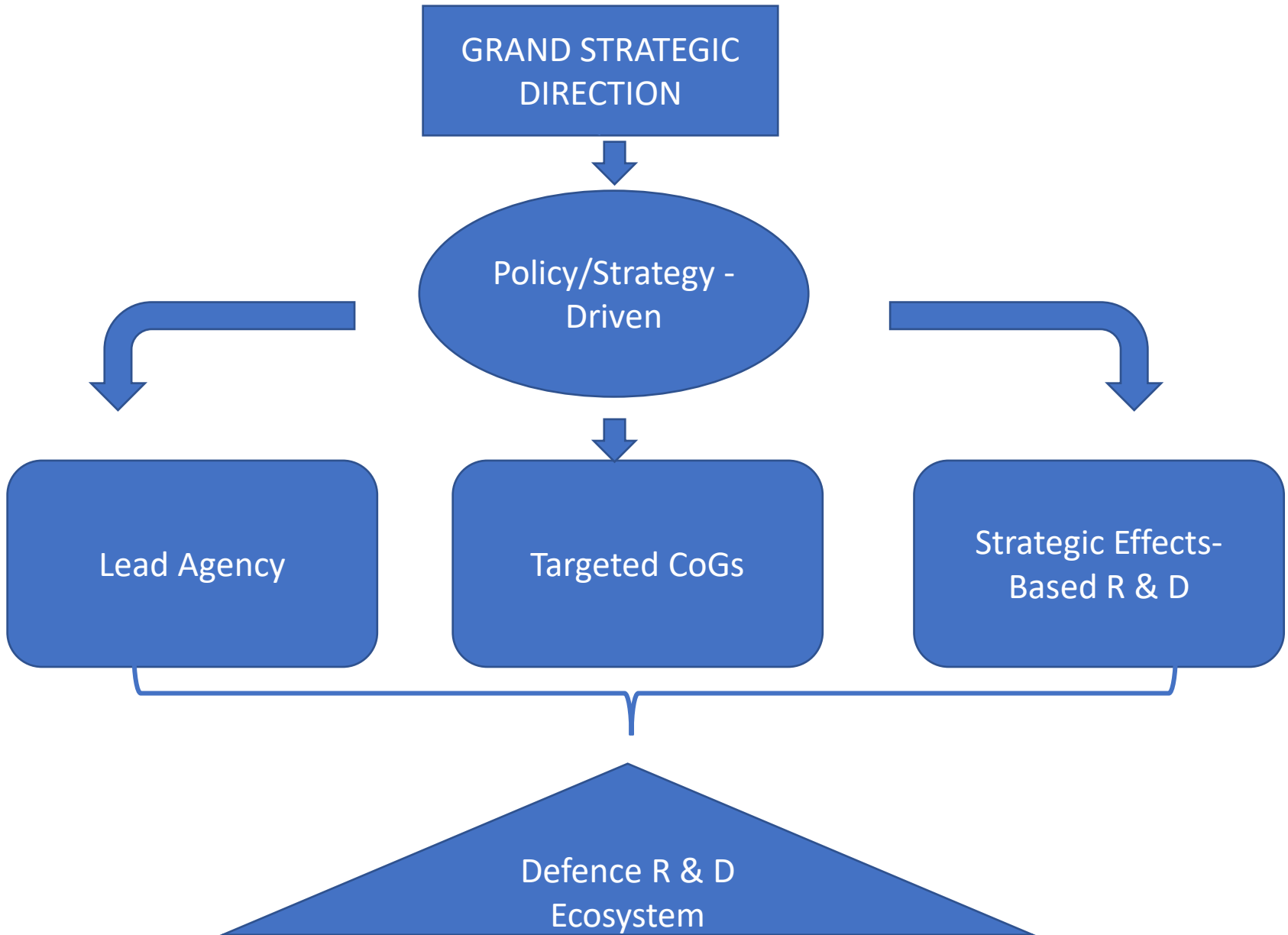
# So what?

- ❖ Strategic clarity
- ❖ Do it OUR way
- ❖ Do not entrap ourselves with other countries' models
- ❖ Strategic context matters
- ❖ Policy/ strategy-driven to build holistic defence R &D ecosystem
- ❖ Set the foundations right first
- ❖ Evolve from present ecosystem to a dynamic, organic and sustainable ecosystem

# Low tech for high strategic yield



# The Evolutionary Tree





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Thank you /  
*Terima kasih*