



Responsive Launch Services: Military adaptable for NATO ?

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JAPCC



**Joint Air Power
Competence Centre**

About the JAPCC (1):

- NATO Centre of Excellence (CoE), dealing with the topic 'Joint Air and Space Power'
- MoU Organization funded by 16 NATO member states
- It consists of four branches:
 - Training and Exercise
 - Combat Air
 - Air Operations Support
 - C4ISR + Space



FRA and PRT have been members in the past



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About the JAPCC (2):

- JAPCC Director is Com AIRCOM
- But it is not included in the NATO Command Structure
- There is a degree of 'academic freedom'
- The information does **not represent NATO policy**, rather the **author's opinion**, based on **doctrine, SOPs and experience**



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Responsive Launch

Responsive launch is **not** launch on demand



Orbits
Close gaps / set priorities
Flexible
Technically focused



Expensive
Not all space services/orbits
Detectable
Small spacecraft



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Existing and future launcher technology

air launched

vs sea launched

vs ground launched fixed and mobile

western countries

USA

DEU

ESA/EU

commercial supported by:

- USA

- GBR

- ITA

other countries

CHN

RUS



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Is responsive launch usable for NATO

no own satellites

8 space faring nations

satellites stay under national control

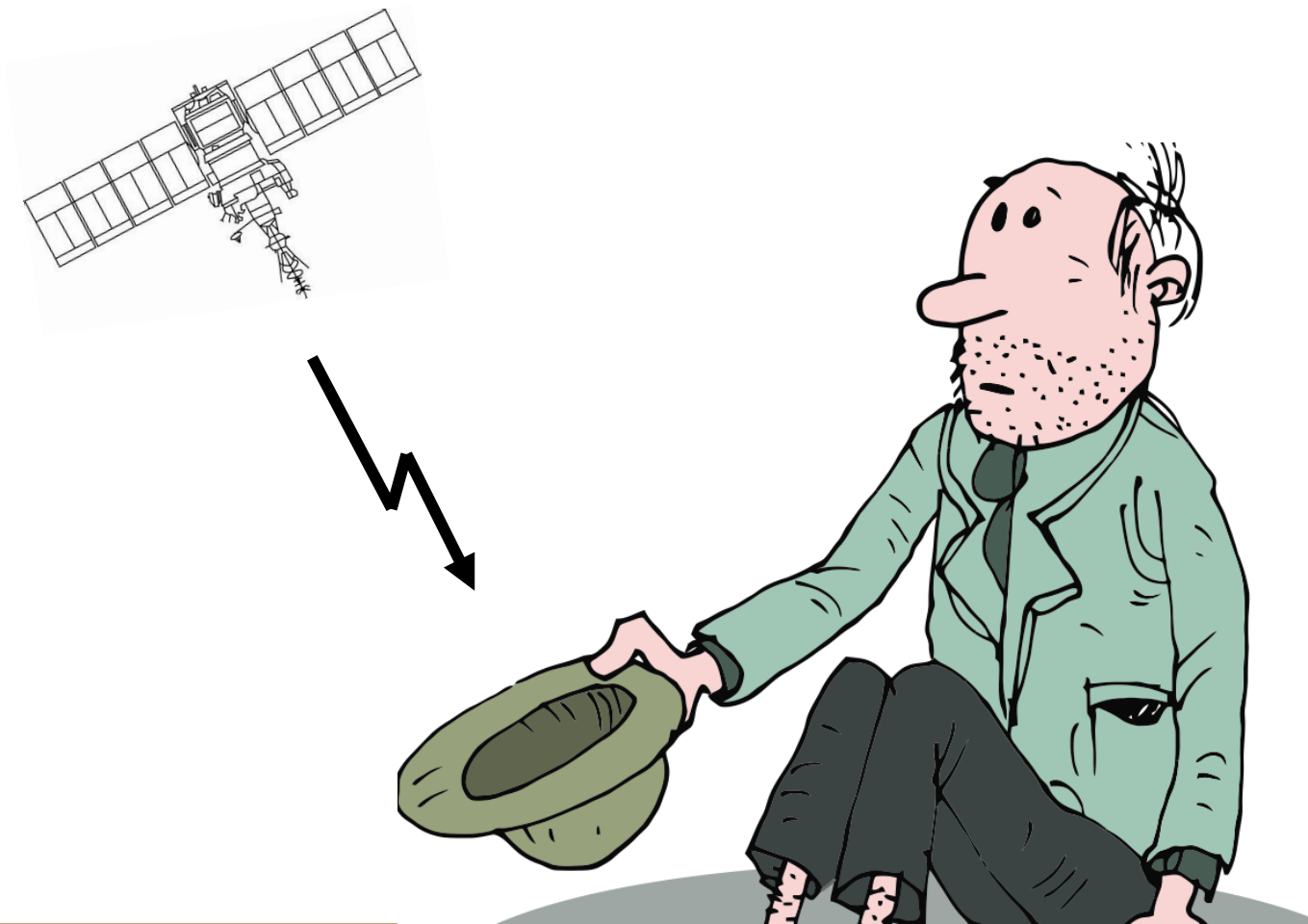
NATO not an independent space actor → self claimed

military contribution by a member nation?!



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NATO Space Support in Operations (‘generalized view’)





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NATO as a customer in the future

space is then recognized as an operational domain

coordinating role in space including space operations

financed by NATO and provided by a member nation

NATO space operation centre and infrastructure required (?!)

ISR community as tasking authority



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Thank you for your attention

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