



Logistics Lessons Learnt from Ukraine

Ignore at your peril!

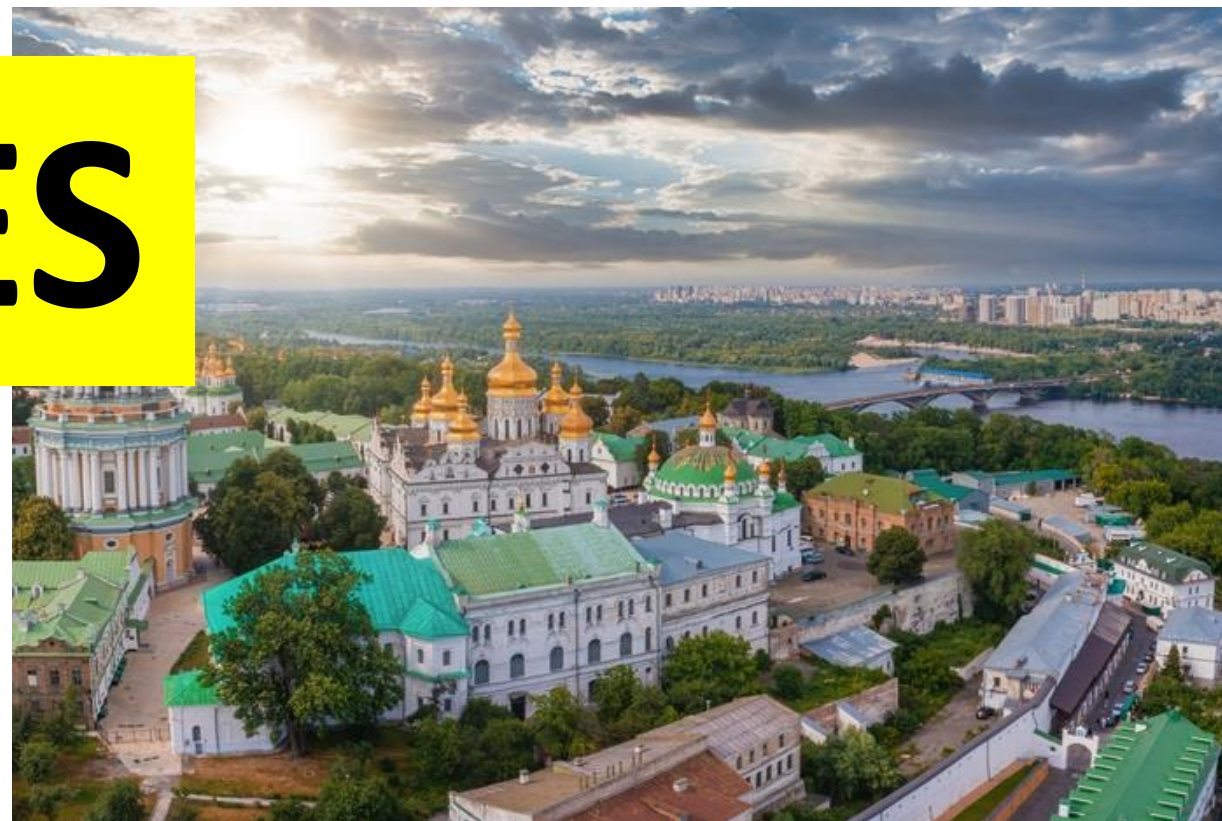
SIGLA

14 February 2024

Ukraine and Southern Africa: Different?



YES



**BUT...the logistics lessons learnt are the
same:
4 main points in this talk**

1. Tactical and operational effects of Uncrewed Aerial Systems (UAS)
2. No 'rear area': nowhere is 'safe'
3. Medical Support is more difficult...if not impossible
4. Civilian contractors: so what?

Lesson One: the tactical and operational effects of UAS



First Person View (FPV) drones



FPV drones: “tactical level” systems

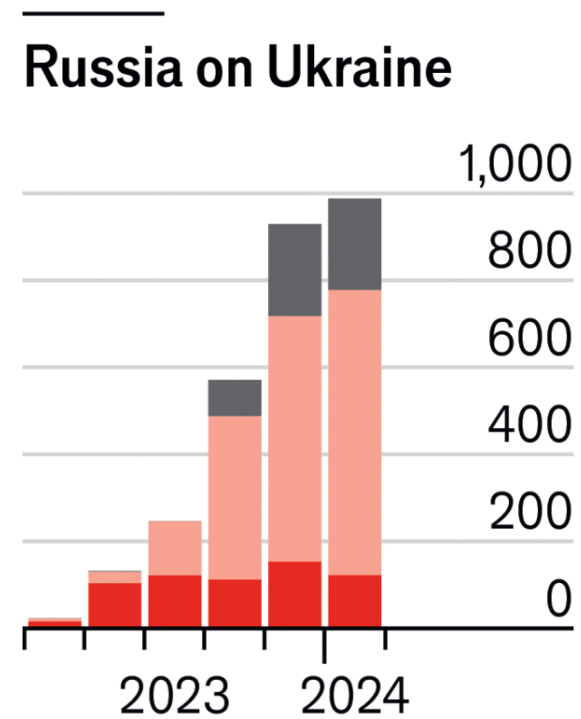
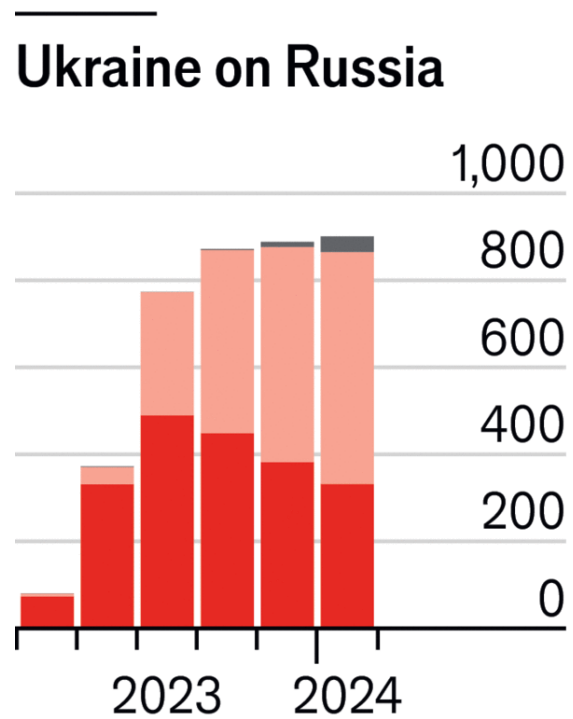
- Speed of 160km/h
- Can loiter around tanks and bunkers
- All components available via (say) Ali Baba/ eBay
- UKR FPV kill zone: 10 km from and up to 1500 m above the FLOT



Number of first-person-view drone strikes

Monthly, to Jan 23rd 2024

Target ■ Vehicles ■ Infantry ■ Position



Sources: Tochnyi; Daniele Barbera; Andrew Perpetua

The Economist

Price checks



Dumb rounds: \$USD 8

\$USD 400



: \$USD 200,000

FPV Capabilities

- FPV hit rate varies between 10-80% (=and they do not always explode)
- Can be jammed as UAS operate off a given radio frequency
- The buzzword is '**improved terminal guidance**'
- This can be achieved with software-based radios which allow easier frequency switching
- Need pilots/ support staff-It's not just a case of '*just flying them*':
you need training and experience
- **Optical tracking** replacing GPS guidance, makes it much less easy to jam
- **AI is coming:** for example, UKR 'Scalpel' drone allows operator to lock in terminal guidance. Cost: \$USD 1,000

“Operational level” systems

Bayratkar TB 2

- Range 150 km
 - 27,000 ft
 - 27 hours



Harop

- Range: 1000 km
- 15,000 ft
- 9 hours
- < \$500K per drone- been in service 13 years , and is fully autonomous
- Weighs 40 kg

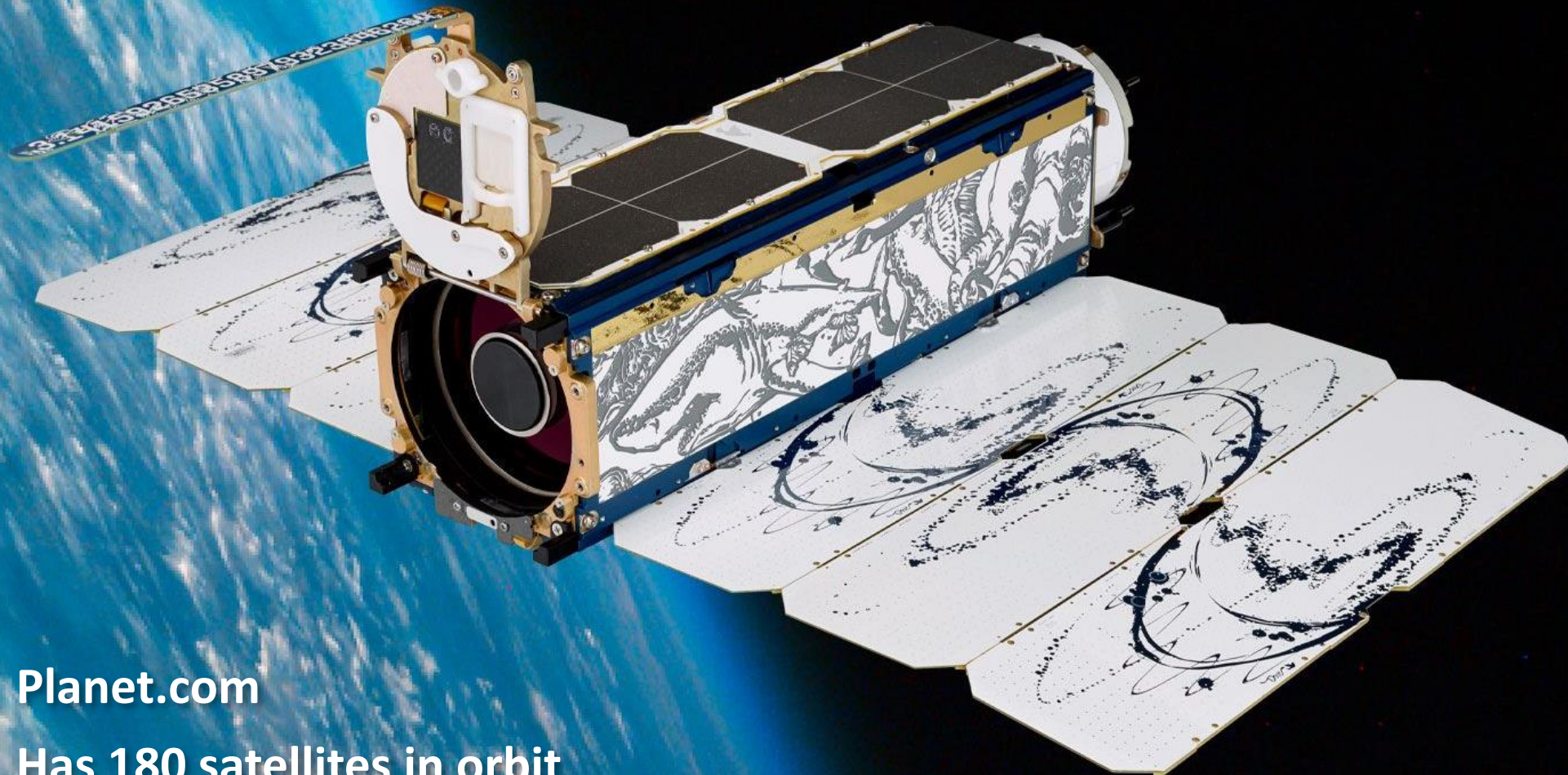


Medium Altitude Long Endurance (MALE) systems

- DX3, VTOL UAS: \$200,000, 3 m wingspan, 1,500 km range (www.theskyguys.ca)
- QXX 222, VTOL, 0.85 Mach, can carry 2 x 250 kg bombs up to 2500 km



Planet satellites: www.planet.com



- Planet.com
- Has 180 satellites in orbit
- Can give you 2 m resolution images of the globe imaging every 24 hours: soon, every 6 hours



Lesson Two: NO rear area

No Rear Area

The principles of CSS will not change but the battlespace is changing, especially for logistic delivery over the 'last tactical mile'

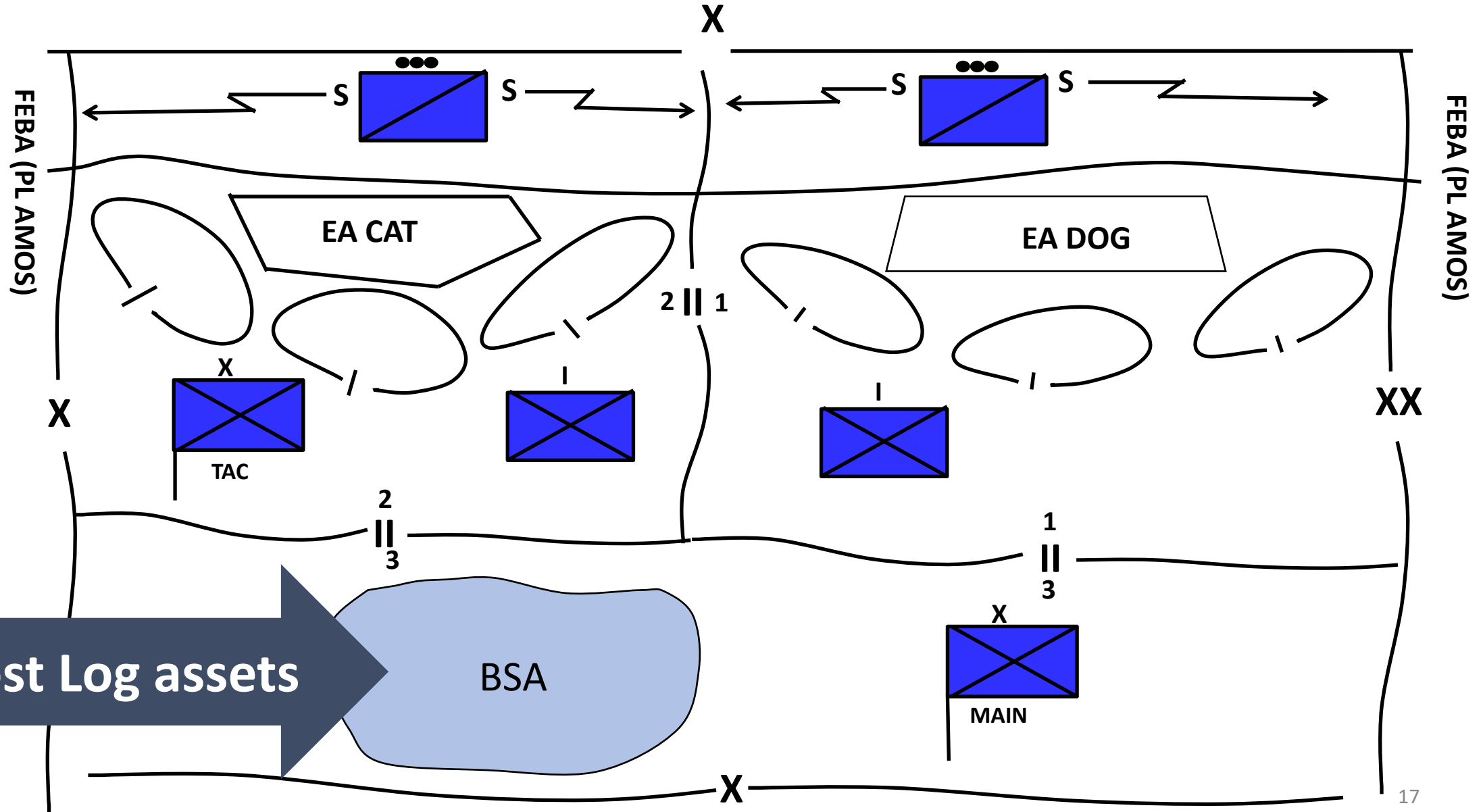
The 'last logistic mile' is now hundreds of km long



Logistics: as we know it...



NATO Brigade Area of Operations



Lesson Three: Medical support is...suicidal?



NATO MTF deployed on Article V exercise

Effect of a single \$USD 80 122mm Russian 'dumb' artillery round



Lesson Four: Civilian contractors and conflict zones do NOT mix



Future conflict and commercial operational support

- Civilian contracting has become established since the 2nd Gulf War. Private contracting has flourished within this (very) specific security and operational environment.
- Iraq and Afghanistan “Forward Operating Base-centric”
- Assumes no air threat, no real offensive support fire threat (direct or indirect), in fact...
- In fact it assumes that there will be **no** peer or near-peer adversary of any kind

Modern Warfare and the private firm

- The combat service supply trail is one of a commander's most vulnerable assets
- "Tooth to Tail" ratio: 2:1 in WW2-now 1:3
- Put bluntly, private contractors will be increasingly targeted
- *The result is greater dispersal of CSS + increased need for security*



Conclusion: So what?





Russian Logistics in Ukraine

- Very fluid, porous battlespace
- Dangerous for logistic units in soft skinned vehicles
- Vulnerable to indirect fire via **light infantry** spotters and/or UAV's
- Vulnerable to **light infantry** armed with direct fire or top attack munitions

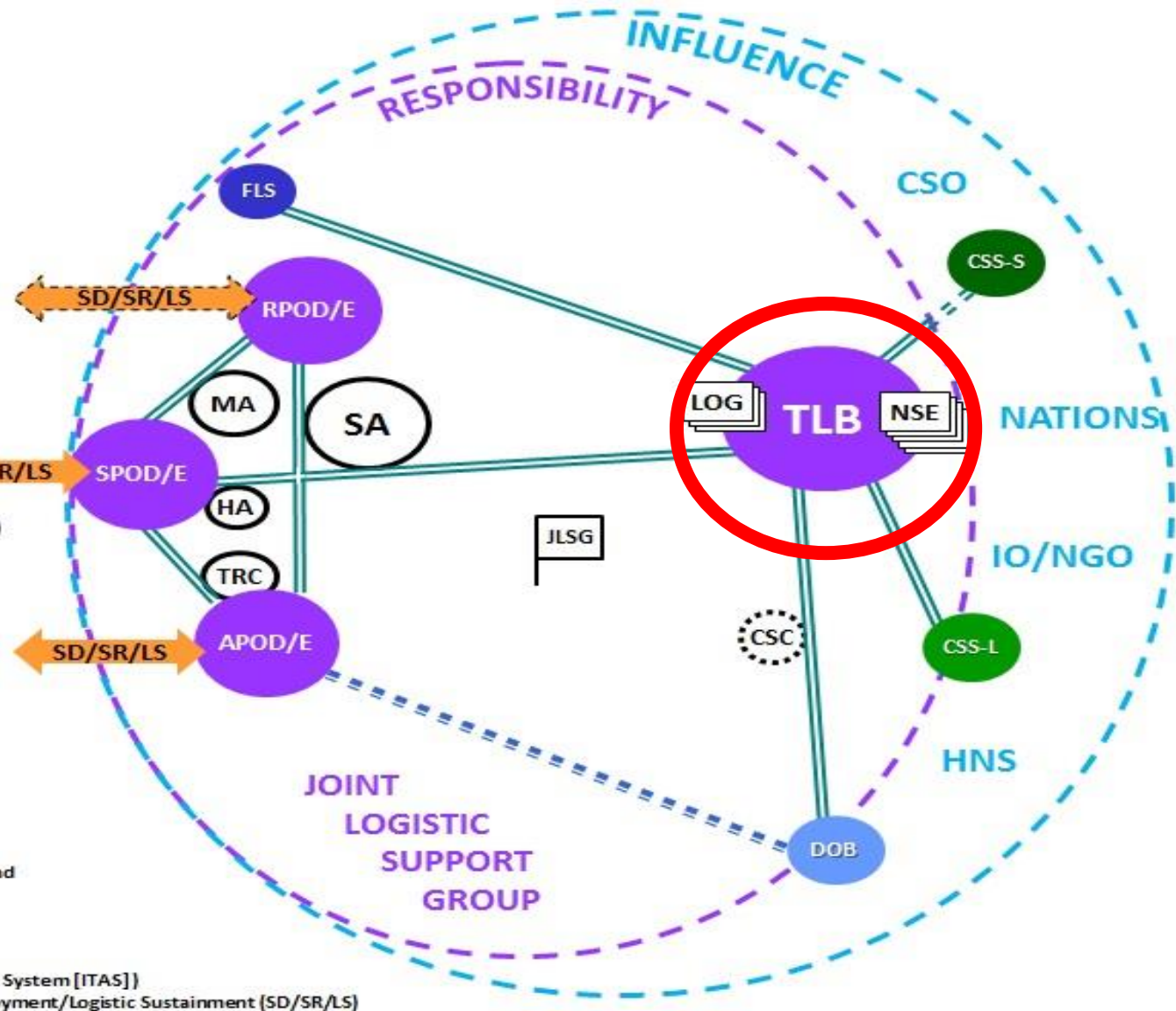
SANDF/ SADC logistics in a contested environment

- Long LLOC's
- Logistic nodes spread far apart
- 'Small wars': low intensity-high lethality

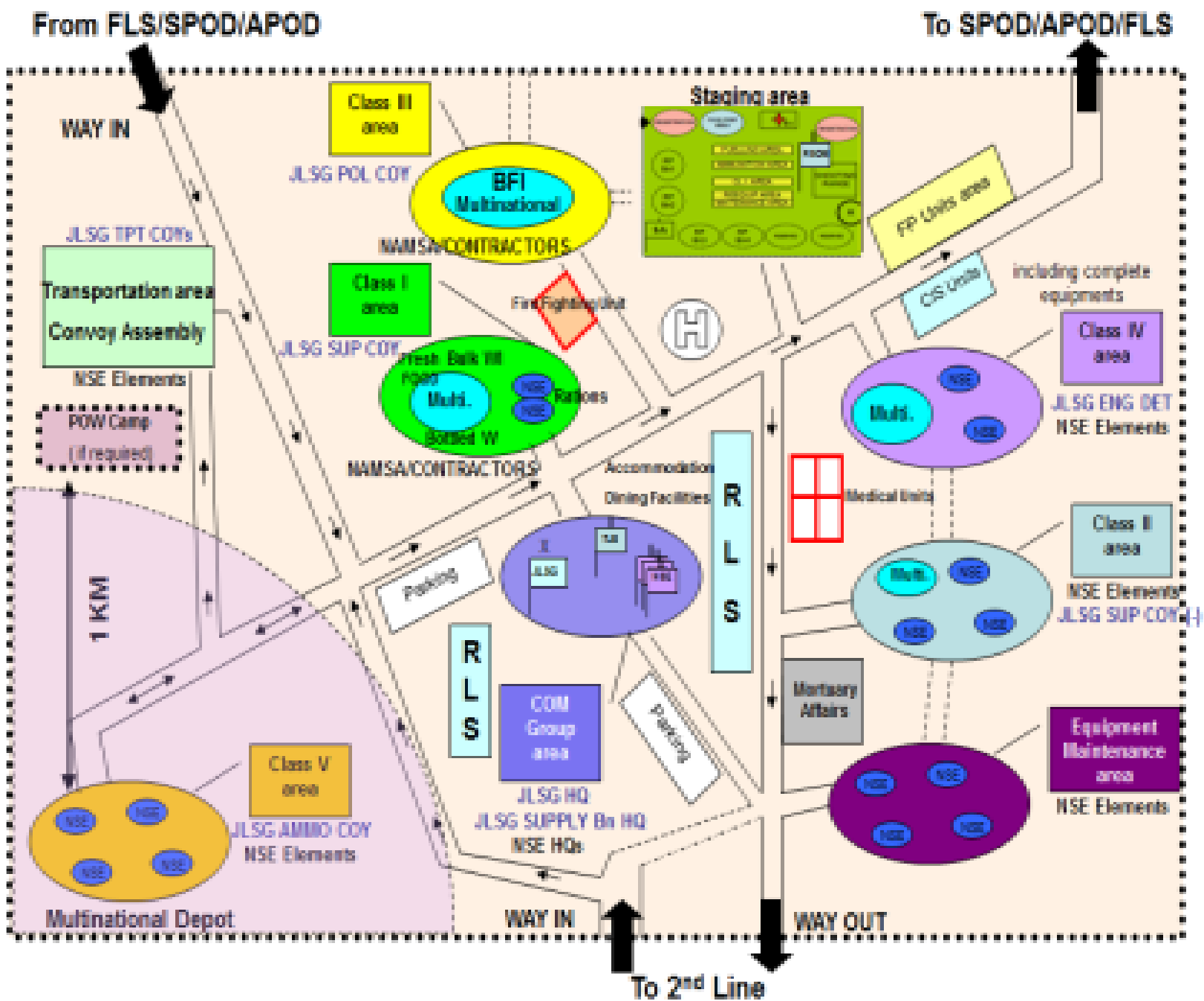


JOINT LOGISTIC SUPPORT NETWORK

- APOD/E- Air Port of De-/Embarkation
- DOB - Deployed Operating Base
- CSC - Convoy Support Centre
- CSO - Contractor Support to Operations
- CSS - Combat Service Support
- CSS-L - CSS support to LCC
- CSS-S - CSS support to SOCC
- DOB - Deployed Operating Base (Log inst. ACC)
- FLS - Forward Logistic Site (MCC)
- HA - Holding Area (Containers)
- HNS - Host Nations Support
- IO - International Organisations
- JLSG - Joint Logistic Support Group
- LCC - Land Component Command
- LS - Logistic Sustainment
- MA - Marshalling Area
- MCC - Maritime Component Command
- NGO - Non Governmental Organisations
- NSE - National Support Elements
- RPOD/E - Rail Port of De-/Embarkation
- SA - Staging Area
- SD - Strategic Deployment
- SR - Strategic Redeployment
- SOCC - Special Operations Component Command
- SPOD/E - Sea Port of De-/Embarkation
- TLB - Theatre Logistic Base
- TRC - Theatre Reception Centre
- Main Supply Route (MSR)
- Air Route (for use of Intra Theatre Airlift System [ITAS])
- Strategic Deployment/Strategic Redeployment/Logistic Sustainment (SD/SR/LS)



NOTE: The two dotted circles do not represent a geographical area



How to do it=(back of a cafe napkin plan)

- Subscribe to Planet.com
- Subscribe to air tracker website
- Deploy log hunter-killer teams by public bus to logistic LOC's
- Use FPV drones...? stream the footage to a distantly located operator
- Hit supply trucks with FPV drones to the engine block
- **Result= An SANDF/ SADC peacekeeping force without supplies**



Questions/ Discussion

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