A Study on Establishing a Rapid Acquisition Process for the Military Application of Advanced Commercial Technologies in Korea

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Need for Rapid Acquisition in recent Warfare

- *Changing Nature of Warfare*

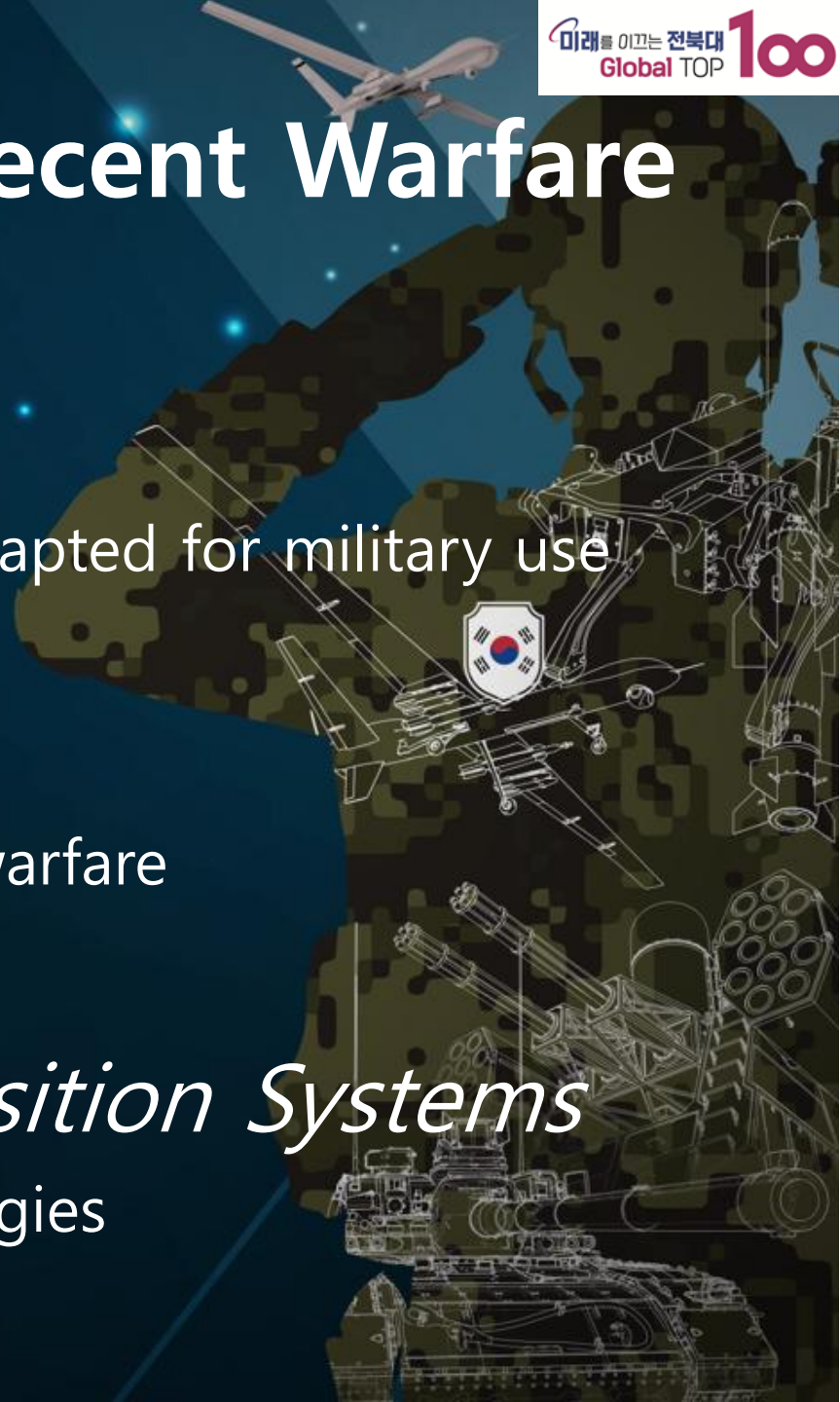
- Cutting edge commercial technologies → rapidly adapted for military use

- *Evidence from Recent Conflicts*

- Speed of adoption = decisive advantage in recent warfare

- *Problem: depend on Legacy Acquisition Systems*

- Slow, rigid and not suited for fast-evolving technologies



Research Questions

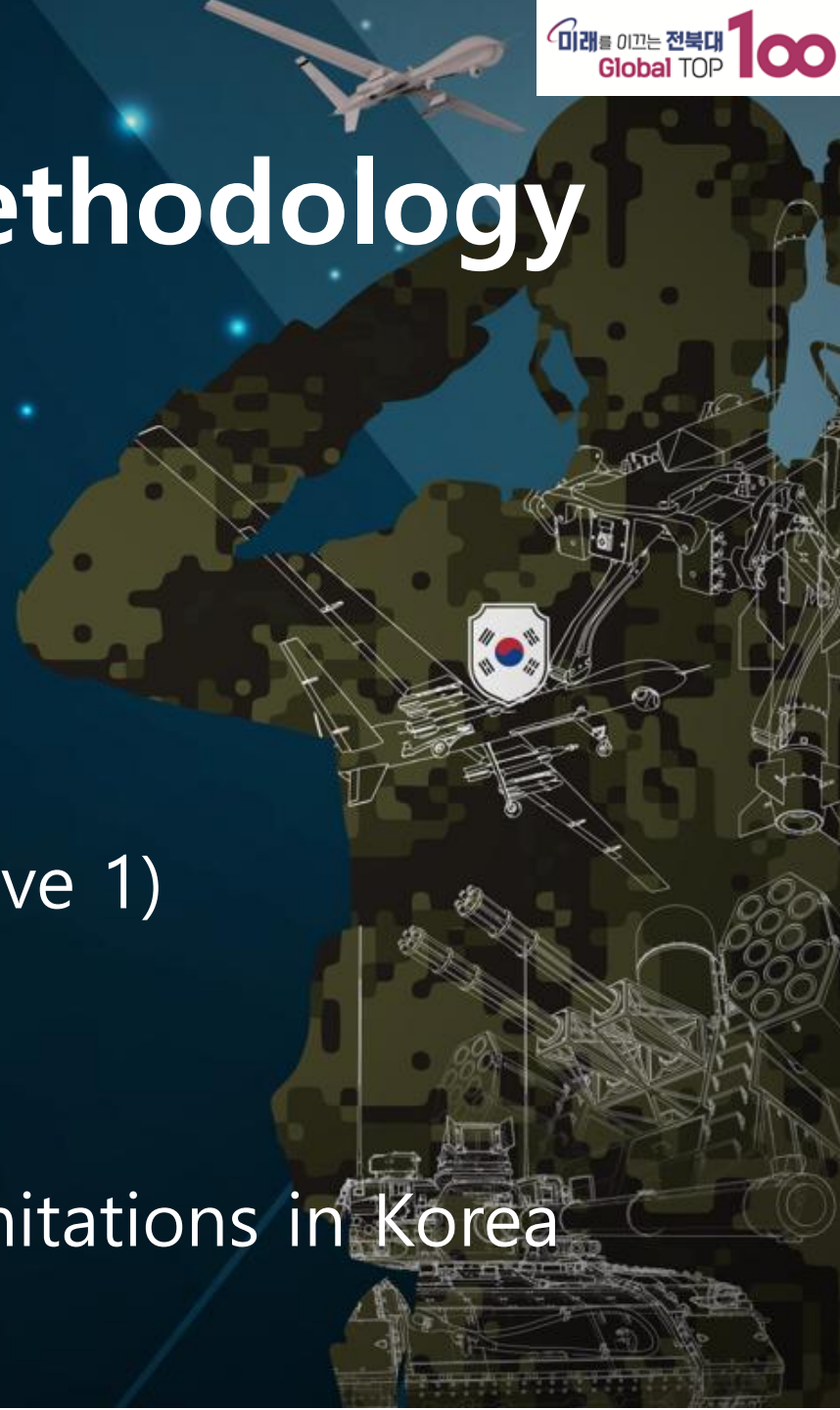
- *How to build an effective rapid acquisition system?*
- *What are the key institutional barriers?*
- *How to adapt U.S., Israel, Ukraine models to Korea?*

Research Framework and Methodology

- *Approach*
  - Theory + Case Studies + Empirical Analysis

- *Key Cases*
  - U.S. (DIU CSO) + Israel (iHLS) + Ukraine (Brave 1)

- *Empirical Insight*
  - Expert Survey → institutional & Structural Imitations in Korea



Global Trends in Rapid Acquisition

- *Common Success Factors*
  - Flexible legal frameworks
  - Fast Contracting & Prototyping process
  - Mission-driven requirements
  - Strong civil-military-industry linkage
  - Dedicated innovation organizations
  - Continuous testing & iteration
  - Possible Transition to deployment

- **Speed + Flexibility = Decisive Advantages**

Category	United States (DIU)	Israel (iHLS)	Ukraine (Brave1)
Policy / Strategy	Rapid military application strategy leveraging commercial technologies	Expansion of an open defense innovation ecosystem driven by private-sector creativity	Rapid deployment of operationally viable technologies for battlefield use
Legal / Institutional Framework	Use of OTA to streamline acquisition and bypass FAR regulations	Minimal legal constraints; privately driven, agreement-based operations	Wartime emergency regulations with platform-based execution
Organization	DIU structure including MET, CET, and Portfolio PM; rapid acquisition units across military services (Army, Navy, Air Force, Marine Corps, Space Force)	Private-sector-led iHLS ecosystem with collaboration from Ministry of Defense and military	Platform-based organization under the Ministry of Digital Transformation
Budget	Funded by DoD (approx. $1 billion annually) with additional private-sector investment	Primarily private investment with supplementary government funding	Combined funding from government and allied support; multiple projects in the range of tens to hundreds of millions USD
Acquisition Process	Needs identification → problem definition → solicitation → pitching → contracting → prototyping → transition to production	Needs definition → open call → startup selection → accelerator program & MVP development → validation → investment → commercialization/export	Proposal submission → evaluation → funding → pilot operation → battlefield deployment
Acquisition Timeline	Within 12–24 months	Typically, within 6 months	Typically, within 2–6 months (accelerated under wartime conditions)
Infrastructure	Five major DIU hubs (e.g., Silicon Valley), supported by NSIN (network) and NSIC	Technology hub centered in Tel Aviv with shared testing and validation facilities	Brave1 digital platform and Ministry of Defense testbeds
Summary	Benchmark model with well-established budget, organization, and procedures	Private-sector-driven gateway for rapid technology integration supported by military collaboration	Highly flexible, combat-oriented model enabling rapid deployment of AI, drones, and robotics

Limitations of Korea's Rapid Acquisition System

- *Rapid Pilot Project*
  - No formal requirement at initial stage
  - Dominated by existing defense firms
  - Uncertain transition
  - Less amount of budget
  - Limited Scalability beyond pilot stage
- *Rapid Requirements*
  - Benchmark Middle Tier Acquisition
  - No implementation cases since 2023
- **Both Systems fail to ensure end-to-end rapid transition**

Category	Rapid Pilot Project	Rapid Requirements	Remarks
Requirement Determination	X*	O	*Urgent requirement can be determined after successful pilot project completion
Testing & Evaluation	△ Military pilot operation + performance verification testing)	O (Formal military testing and evaluation)	Since 2024, performance verification testing may substitute formal T&E for systems developed through pilot projects (Defense Acquisition Program Act, Sept. 2023)
Minimum Operational Unit Production	O	O	Minimum operational quantity can be produced through sole-source contracts with prototype developers (Defense Acquisition Act, Sept. 2023)
Initial Deployment / Follow-on Production (Phase 1)	Unclear	O	Possible if initial production quantities are reflected during urgent requirement determination
Full Deployment / Follow-on Production (Phase 2+)	Unclear	Unclear	Conventional acquisition process (PPBEES) may apply (requirement determination → ↓ mid-term planning → feasibility study → production)
Project Duration	Within 5 years (2 years for pilot + 2–3 years after urgent requirement decision)	Within 5 years	—
Budget	Approx. KRW 58 billion (2024); typically tens of billions KRW per project	No fixed budget limit (projects exceeding KRW 50 billion require feasibility study)	—

Empirical Findings

- *Key Results*

- **58** respondents
- **70.2%** : System is insufficient
- Avg. score : **2.26** / 5
- **94.4%** support acquisition reform

- *Policy Priorities*

- Dedicated Funding
- Guaranteed production mechanisms
- Need for concrete legal framework
- Rapid upgrade & iteration

<Priorities for Improving Current Rapid Acquisition System in Korea>

Contents	priority	Points		
			Experts	Industry
1) Dedicated Budget Allocation	1	4.40	4.43	4.39
2) Guaranteed unit-level procurement after success	2	4.22	4.07	4.28
3) Prototype demo testing (alternative to formal T&E)	3	4.14	4.54	4.00
4) Rapid upgrade linkage after initial deployment	4	4.06	3.92	4.11
5) Military collaboration during development (data & feedback)	5	4.02	4.08	4.00
6) Stronger alignment with operational needs (PM system)	6	3.94	4.29	3.81
7) Dedicated rapid acquisition legislation	7	3.88	4.07	3.81
8) Scale-up support after project success	8	3.86	3.71	3.92
9) Institutionalized pilot unit utilization	9	3.81	3.67	3.86
10) Dedicated organization & skilled workforce	10	3.80	4.08	3.70
11) Protection of corporate IP rights	11	3.78	3.85	3.75
12) Conditional operational suitability certification	11	3.78	3.54	3.86
13) Accelerator program introduction	13	3.72	3.54	3.78
14) Reduced audits & liability protection	14	3.71	3.92	3.64
15) Fast-track / exemption from feasibility studies	15	3.68	3.77	3.65
16) Relaxation of security regulations	16	3.59	3.62	3.58
17) Investor linkage support	17	3.49	3.31	3.56
18) Introduction of Live Demo Day	18	3.39	3.38	3.39

Note: Measured on a 5-point Likert scale (5 = very high, 3 = neutral, 1 = very low). The same scale applies hereafter.

Korean-Style Rapid Acquisition Model

- *Key Concepts*

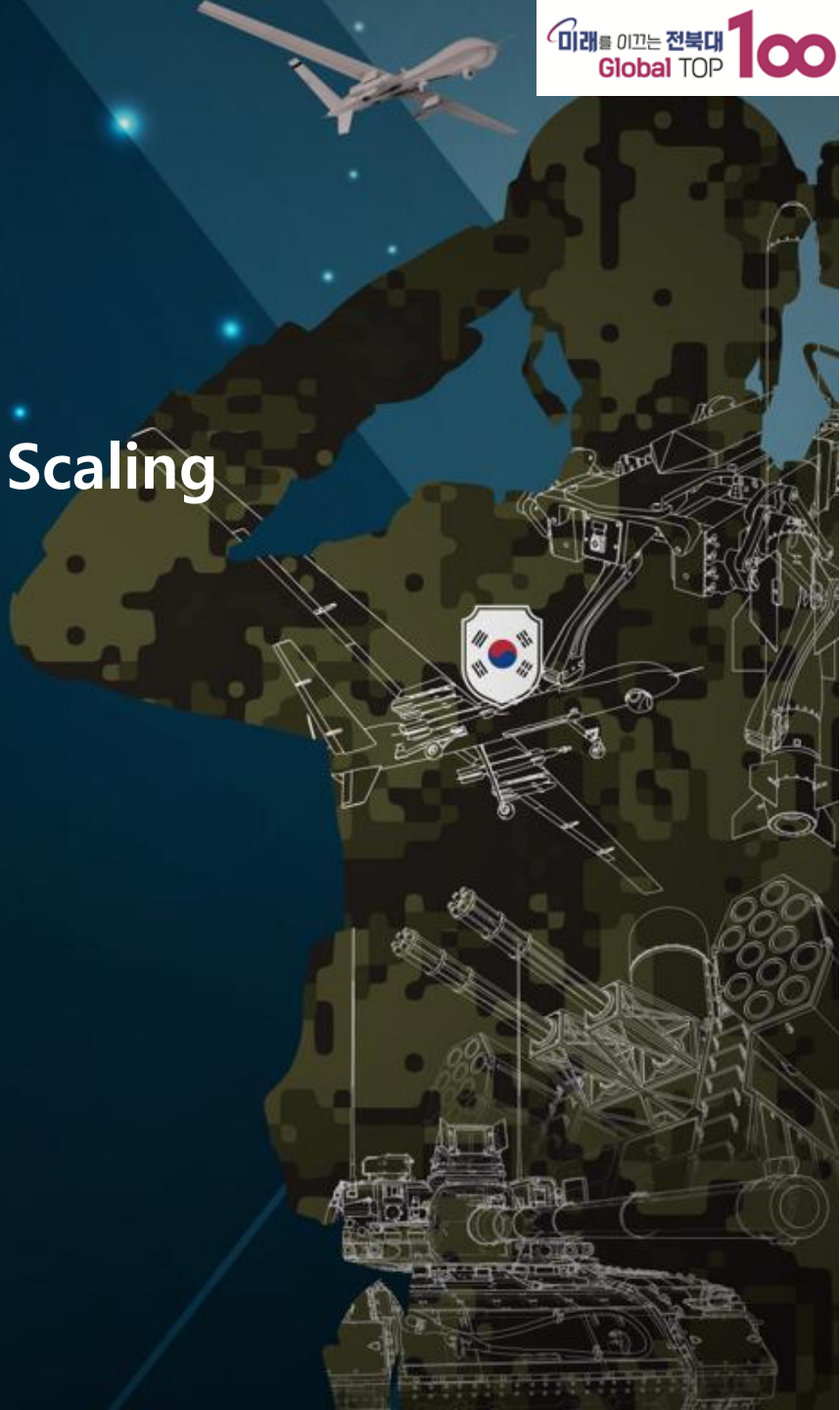
- Overcome limitations of existing systems
- **Mission-driven, Guaranteed Deployment, Iteration & Scaling**

- *Core Structures*

- **(Phase 1)** Needs Identification & Open Solicitation
- **(Phase 2)** Selection & Flexible Contracting (<90 days)
- **(Phase 3)** Prototypes & Operational Experimentation (<2 y)
- **(Phase 4)** Deployment, Iteration & Scaling(2-5 y)

- *End to end rapid transition*

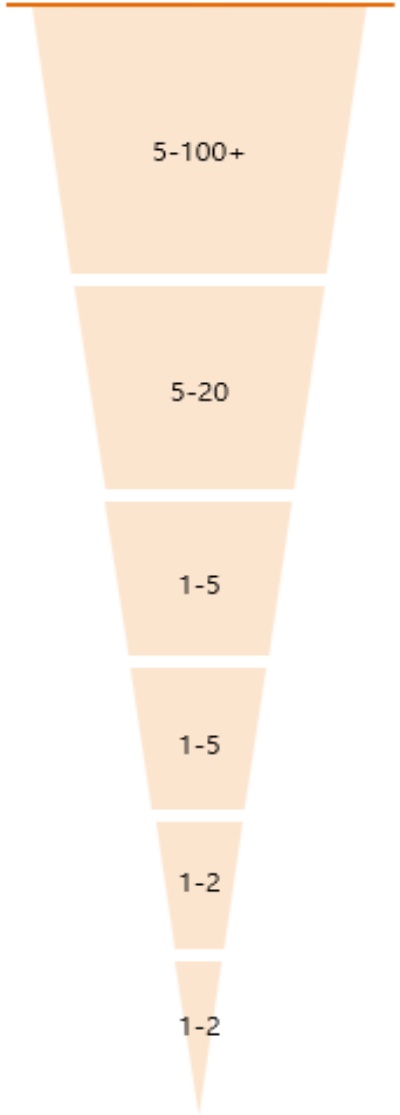
: **Mission → Prototyping → Fielding → Scaling**



Korean-Style Rapid Acquisition Model

Phase	Sub-Stage	Key Activities	Responsible Entity	Timeline
Phase 1 Needs Identification & Problem Definition	1-1 Needs Identification	Identification and submission of urgent operational needs from military units	Military units, K-DIU	Within 30 days
	1-2 Problem Definition	Refinement of military needs into problem statements aligned with advanced technologies	K-DIU PM, military, technical team	
	1-3 Market Research & Feasibility	Market analysis, TRL assessment, feasibility and risk analysis	K-DIU PM, technical team, external experts	
	1-4 Solicitation	Development and announcement of solution solicitation (Request for Proposal)	K-DIU PM	
Phase 2 Company Selection & Contracting	2-1 Proposal Submission	Submission of short proposals (≤ pages or ≤ slides)	Participating firms	Within 60–90 days
	2-2 Evaluation & Pitch	Technical evaluation and presentation (multi-stage review)	K-DIU PM, technical team, military users, experts	
	2-3 Final Selection & Contract	Final selection and contract/agreement signing	K-DIU PM, contracting authority	
Phase 3 Prototype Development & Experimentation	3-1 Prototype Development	PoC support, test unit matching, Live Demo Day, investor linkage	Selected firms, military test units, advisors, investors	Within 1–2 years
	3-2 Field Experimentation	Operational testing and validation in military environments	Military users, K-DIU	
Phase 4 Deployment, Iteration & Scaling	4-1 Initial Deployment	Initial procurement and deployment at requesting military unit	Military units	Within 2–5 years
	4-2 Rapid Iteration	Performance improvement based on user feedback and operational use	Military, K-DIU, developers	
	4-3 Scaling & Expansion	Transition to full-scale production (PPBEES), expansion to public sector, private partnerships, investment, and export	DAPA, military, K-DIU, industry, investors	

Number of participating companies



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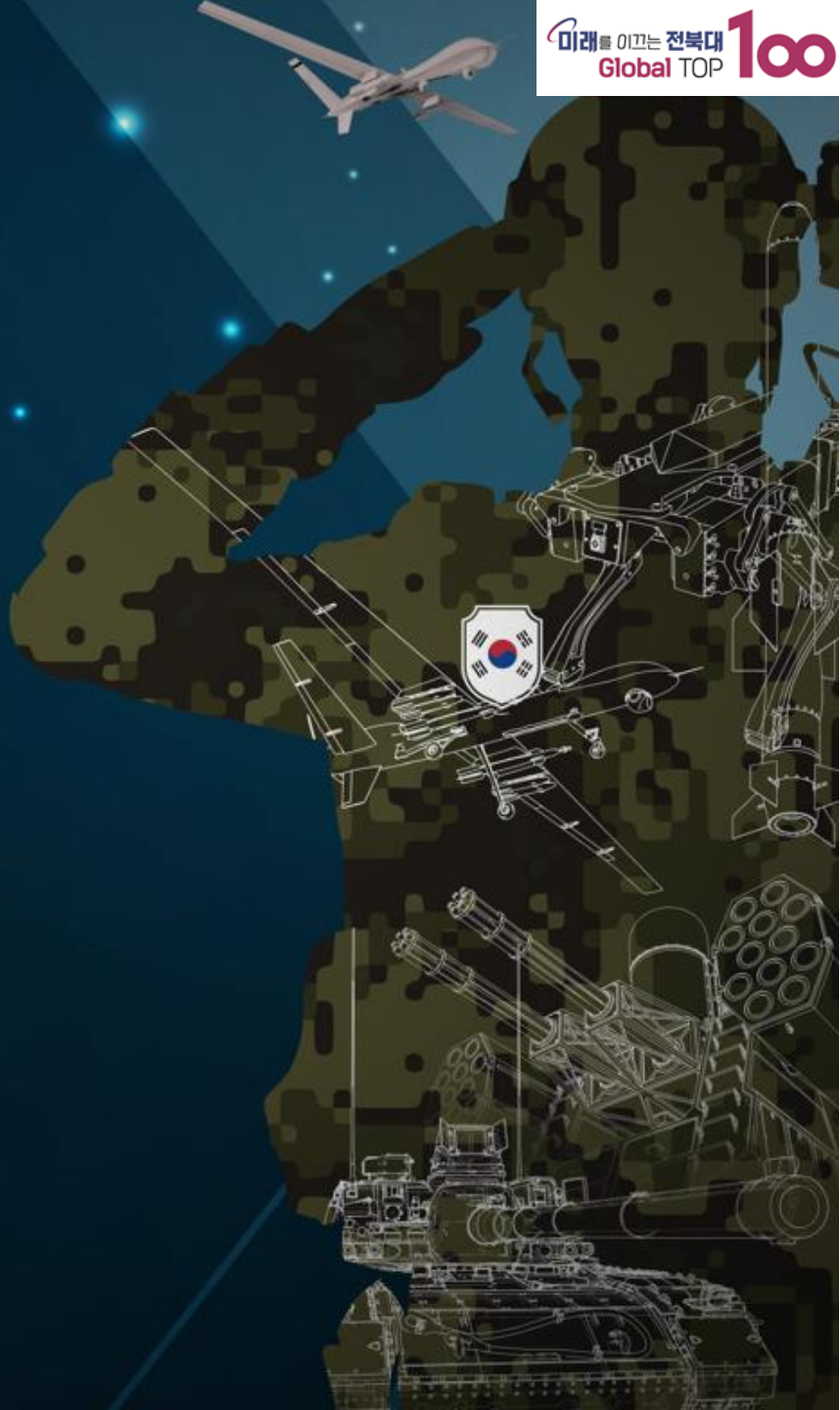
- The views, findings, and conclusions expressed in this paper are solely those of the author and do not necessarily reflect the official positions of KRIT or any affiliated institutions.

Q & A



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