
Industry Preparedness: Revisiting the Trade-Off Between Mass and Technology

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Research question

How can Europe rearm efficiently?

Understanding defense industry dynamics to improve procurement performance

Related literature:

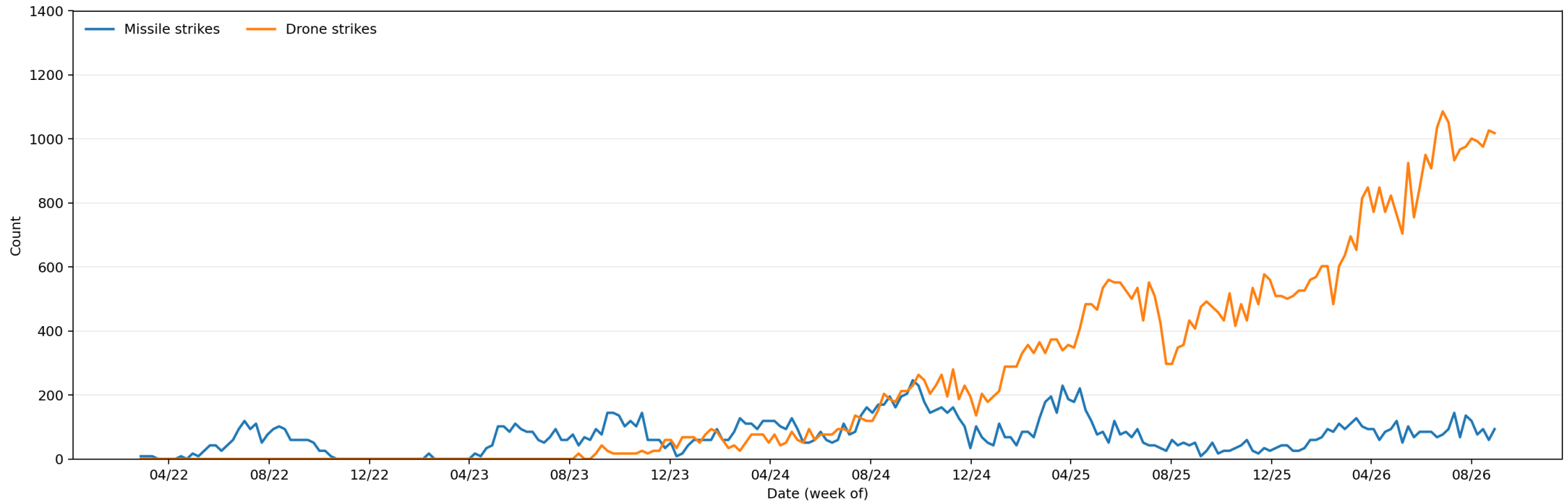
- Strategic studies: transatlantic relationship (Meijer and Brooks, 2021); role of EU instruments (Faure, 2026); preparing for war (Schmitt, 2026)
- Defense economics: defense burden (Becker et al., 2025); Fiscal space for defense (Heimberger et al., 2026)
- Industrial economics: dual-use technology (Hobday, 1998); value chains in defense (Hellberg et al., 2025)

Outline

1. Mass versus technology?
2. Frontiers of the defense industry: the emergence of new defense in Europe
3. Redefining the defense industrial policy



Mass versus technology?



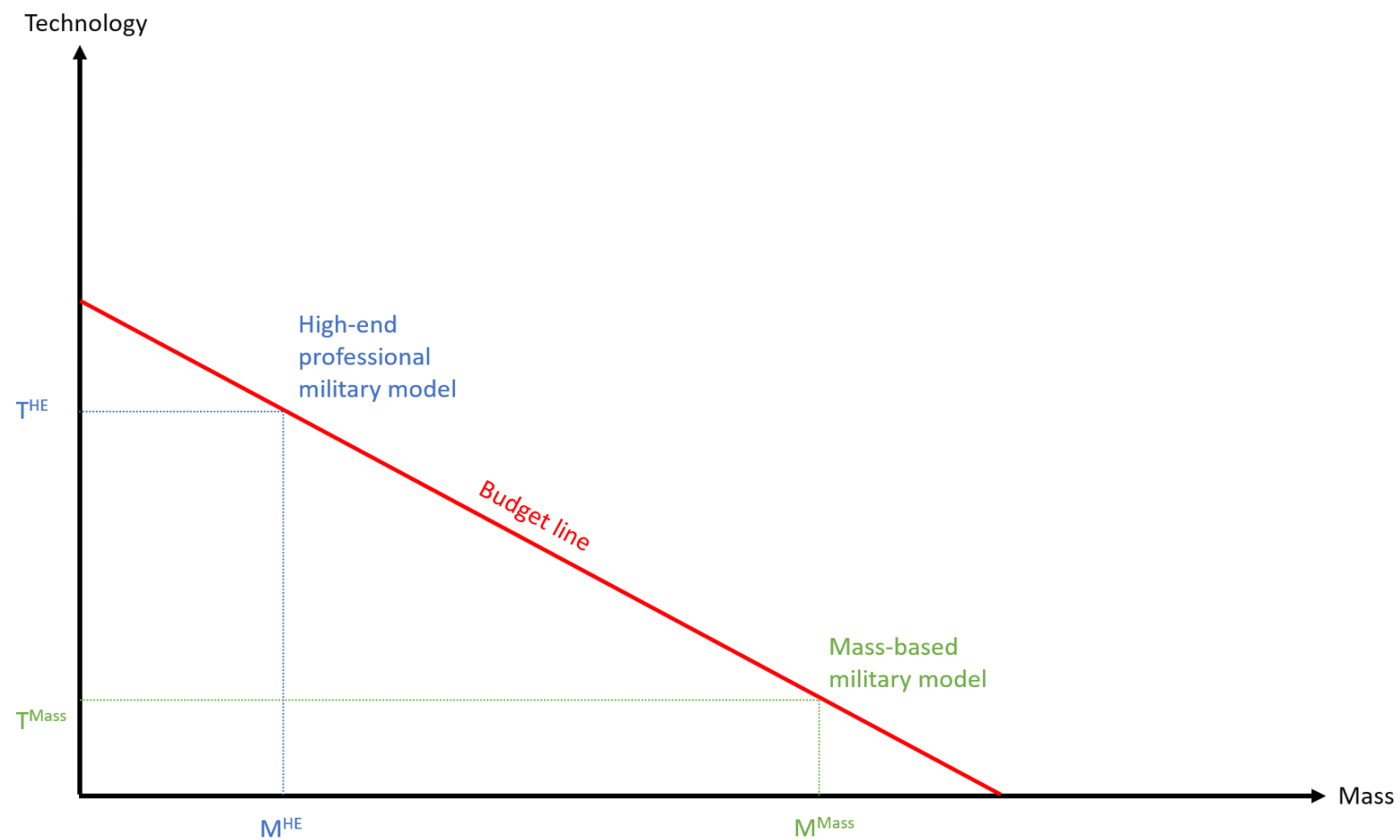
ACLED (2026)
Number of strikes per week in Ukraine

Mass versus technology?

System	Estimated use in Iran War	FY 2027 request	Deliveries in FY 2026	Annual production capacity – Current maximum rate	Annual production capacity – Framework agreement goal	Estimated return to prewar inventory
Tomahawk	1,000+	785	207	600	1,000	Late 2030–early 2031
THAAD	190–290	857	92	96	400	Mid to late 2029
Patriot	1,060–1,430	3,203	172	2,000	2,000	Mid-2029
SM-3	130–250	214	52	156	250	Early 2029
SM-6	190–370	540	125	239	500	Late 2028–early 2029
JASSM	1,100+	821	484	860	—	Mid-2027
PrSM	40–70	1,134	70	680	550	Late 2026

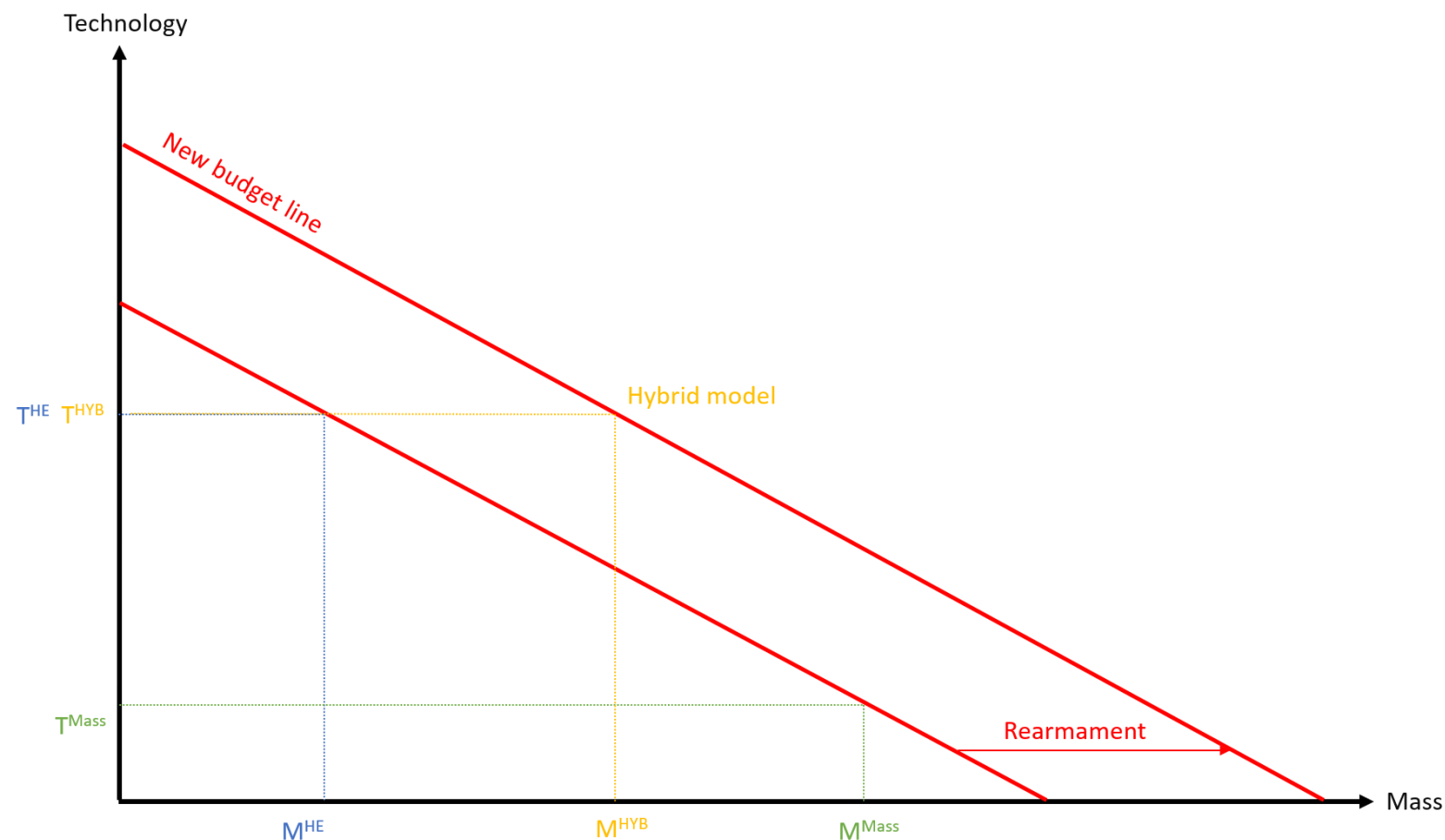
Cancian & Park (2026)

Trade-off



Quinet (2026)

Trade-off



Quinet (2026)

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Frontiers of the defense industry

- Drivers for new defense
- Definition of new defense firms
- Data collection
- Main results on the ecosystem of new defense in Europe

The screenshot shows the front page of a research article in the journal 'Defence and Peace Economics'. The article title is 'Redefining the defense industry: an empirical analysis of new defense firms in Europe' by Josselin Droff, Lucie Béraud Sudreau, Julien Malizard, and Eva Szego. It includes a sidebar with article statistics (311 views, 1 citation), an abstract, keywords, and JEL classification. A 'Related Research' section on the right lists other articles on defense spending and European armament sectors.

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Research Article
Redefining the defense industry: an empirical analysis of new defense firms in Europe
Josselin Droff, Lucie Béraud Sudreau, Julien Malizard & Eva Szego
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ABSTRACT
New defense is reshaping the traditional boundaries of the sector. By delivering critical technologies for modern warfare these New defense actors are becoming central to Europe's strategic autonomy. Yet, they remain for now overlooked in defense industry literature. This article pursues two objectives: first, to define New defense companies in contrast to the traditional defense industrial base (DIB); and second, to provide a preliminary statistical analysis showing how these firms are redefining the structure of the defense industry in Europe. Our findings indicate that New defense is not driven by new entrants alone, but by a diverse ecosystem that includes both small firms and established actors. Instead of being truly disruptive, current market dynamics are largely complementary: new entrants typically position themselves in strategic yet relatively narrow niches with strong growth potential, while incumbents incorporate them through acquisitions or partnerships. We further demonstrate that the new defense ecosystem extends beyond a simple opposition between startups and large firms, encompassing also the strategic repositioning of established SMEs. Recognizing these complementarities, alongside existing structural rigidities, may pave the way for a renewed approach to defense industrial policy.

KEYWORDS:
Defense industry new defense Europe industrial policy

JEL CLASSIFICATION:
N.4 L.6 D.4 O.38

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European new defense: drivers and US benchmark

Structural drivers

- Augustine’ Laws / Budget constraints
- Lower cost defence products
- Battlefield miniaturisation and robotisation

Cyclical drivers

- New domains of conflicts and operational uses
- Preparedness for high intensity warfare
- European strategic autonomy

Knowledge of an US ideal type

Young firms / startups

Scale economies

Civilian market base

Disruptive products

Venture capital

Anduril, Shield AI, Saronic

Operational definition of new defence firms

Classification rule

NEW DEFENCE EQUIPMENT

Exclusive focus on new platform categories

Empirical scope:

Air: tactical and small drones - Land: UGV Sea: USV, UUV and ROV - Space: small satellites, launchers and HAPS

HISTORICAL DEFENCE EQUIPMENT

Legacy platforms → most likely produced by legacy firms

Ideal-type criteria

MARKET

Market duality
Technology push and demand

PRODUCT

Small size and low cost
Dual use and intangibles
Production volume

FIRM VARIABLES

Measured

Age
Country
Academic spin-off

Measured

Employment and revenue
Innovative financing

Not available

Entrepreneurship
Industrialisation stage

Company identification and data collection

01

Candidate universe

Supplier databases
Specialised press

02

Defense relevance

Company websites
Defence market check

03

Firm profile

PitchBook and finance
platforms
LinkedIn and company
histories

04

Final classification

New entrant
Historical defense

DATA COLLECTION

March 2025 to mid-October
2025

COVERAGE

Six platform segments across
Europe

APPROACH

Market mapping
Cross-checking across open sources

Open-source limitations: incomplete employment and revenue data, variable corporate disclosure

New defence firms: age and startup status

13 years

Average age, new entrant

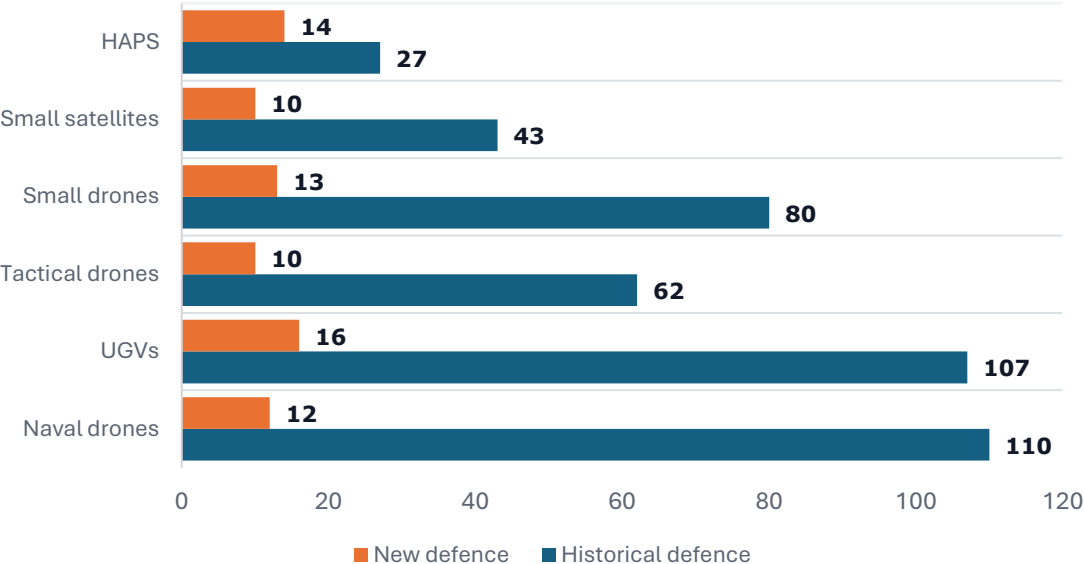
72 years

Average age, historical defence

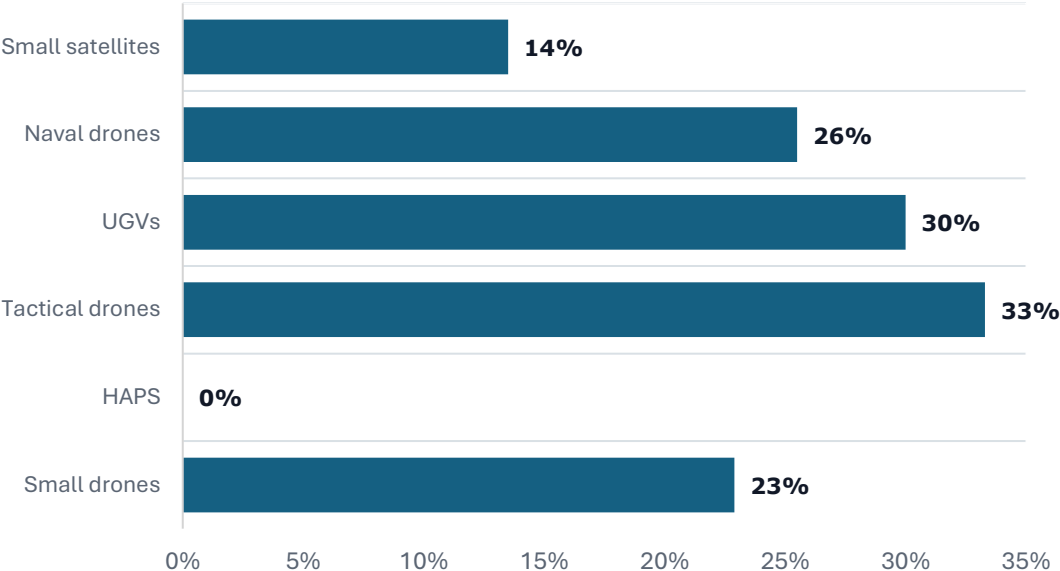
21%

Average startup share

Average firm age in 2025



Startups among new defence firms

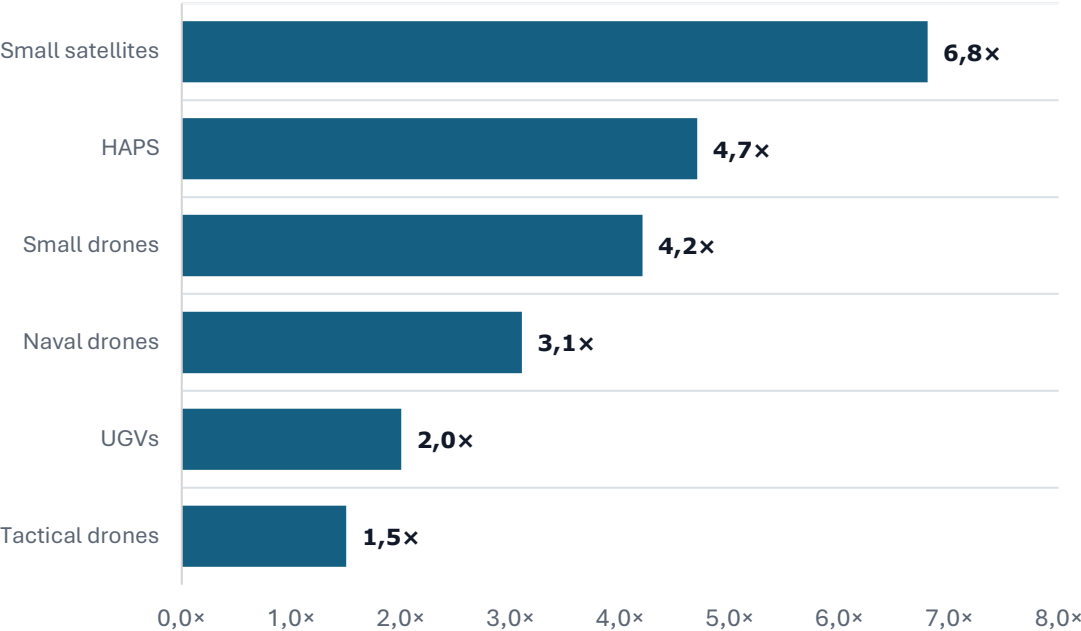


Market expansion and innovative financing

3.7x

Average player multiplier

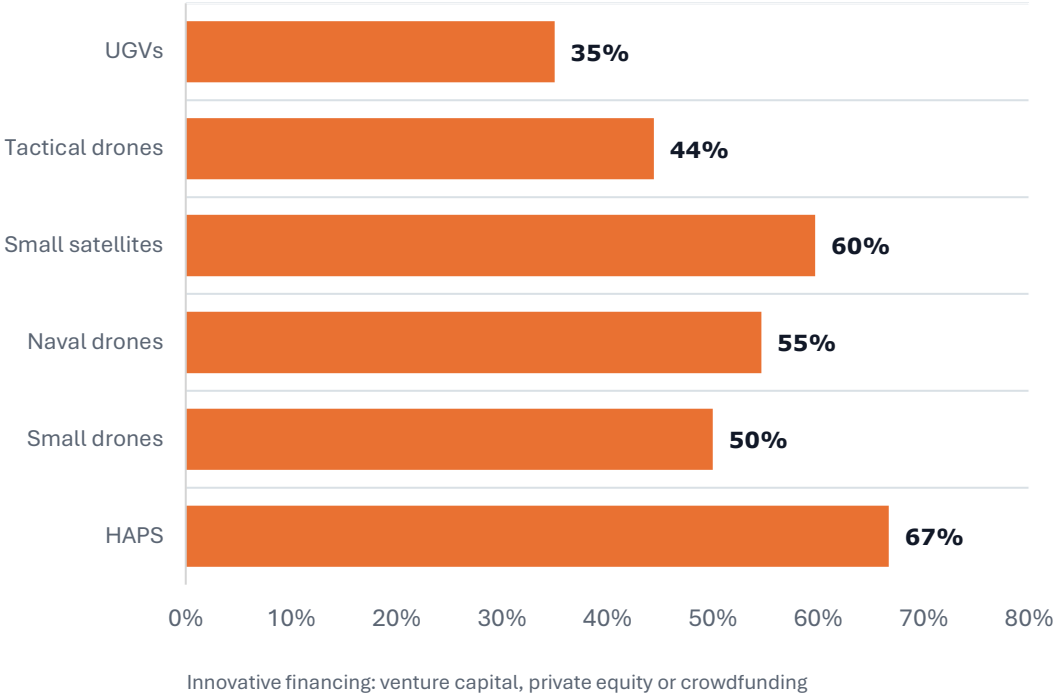
Players relative to historical defence only



52%

Average innovative financing share

Innovative financing among new defence firms



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Defense industrial policy options



Producing more



Business model



Financing defense



Dual use technology



Producing more: from prototype to mass production

Industrial scale-up

- Large series for attrition warfare
- Short product cycles and rapid obsolescence
- Machine-tool, component and skills bottlenecks
- Limited European scale-up track record
- Cost-per-effect uncertainty at very high volumes

Procurement levers

- Small-batch orders and operational testing
- Clear prototype-to-series gateways
- Multiyear demand visibility
- Large-firm / SME industrial partnerships
- Performance criteria without specification inflation

Business model: two complementary industrial logics

Historical defense

- State-funded research and development
- Bespoke, complex platforms
- Long programmes and low volumes
- MRO, upgrades and retrofit revenues
- Stable national buyer–supplier ties

New defense

- Self-funded or private-funded development
- Product-led, technology-push innovation
- Short cycles and high volumes
- Software, data, training and service revenues
- Commercial components and civilian processes

Financing defense: capital and procurement credibility

Financing profile

- Intangible-intensive assets
- Limited bank collateral
- Equity, venture capital and private equity
- Long path from development to revenues
- 52% average innovative-financing share

Policy priorities

- Credible procurement pipeline
- Early orders for industrial de-risking
- European growth capital
- Strategic foreign-acquisition screening
- Long-term demand visibility



Dual-use technology: scale, speed and strategic control

Economic upside

- Larger civilian and military addressable market
- Scale and scope economies
- Commercial components and lower production costs
- Faster diffusion of AI, software, robotics and data
- Civil revenues and lower defense dependence

Policy guardrails

- Military-specific requirements and operational testing
- Supply-chain security and trusted ownership
- Export-control / market-openness balance
- Competition across wider markets
- Rapid civil–military feedback loops

Wrapping-up and conclusion

Changing nature of conflict...

- Need for smart and affordable mass for attrition warfare

Data driven / intangible goods

Civilian good / closeness to civilian industries

- But need for high-end equipment

→ Complementarity between mass and technology

... and changing nature of defense procurement

- Main challenges: switching from a just in time logic to a just in case approach

From an economic perspective: just a cost

From a strategic perspective: an insurance

- Preparing for high-intensity warfare:

Stimulating a new defense ecosystem

Thinking along the value chain

- New procurement agency to shorten delay?

Thank you for your attention

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