



National Defence University

**Korkein
turvaluokitustaso:**

JULKINEN

**RESEARCH AT
NATIONAL DEFENCE UNIVERSITY**

*Professor, research director
Hannu H. KARI*



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Research themes




Our changing world

Evolution of war



Russia




China



Future armed forces



Comprehensive defence



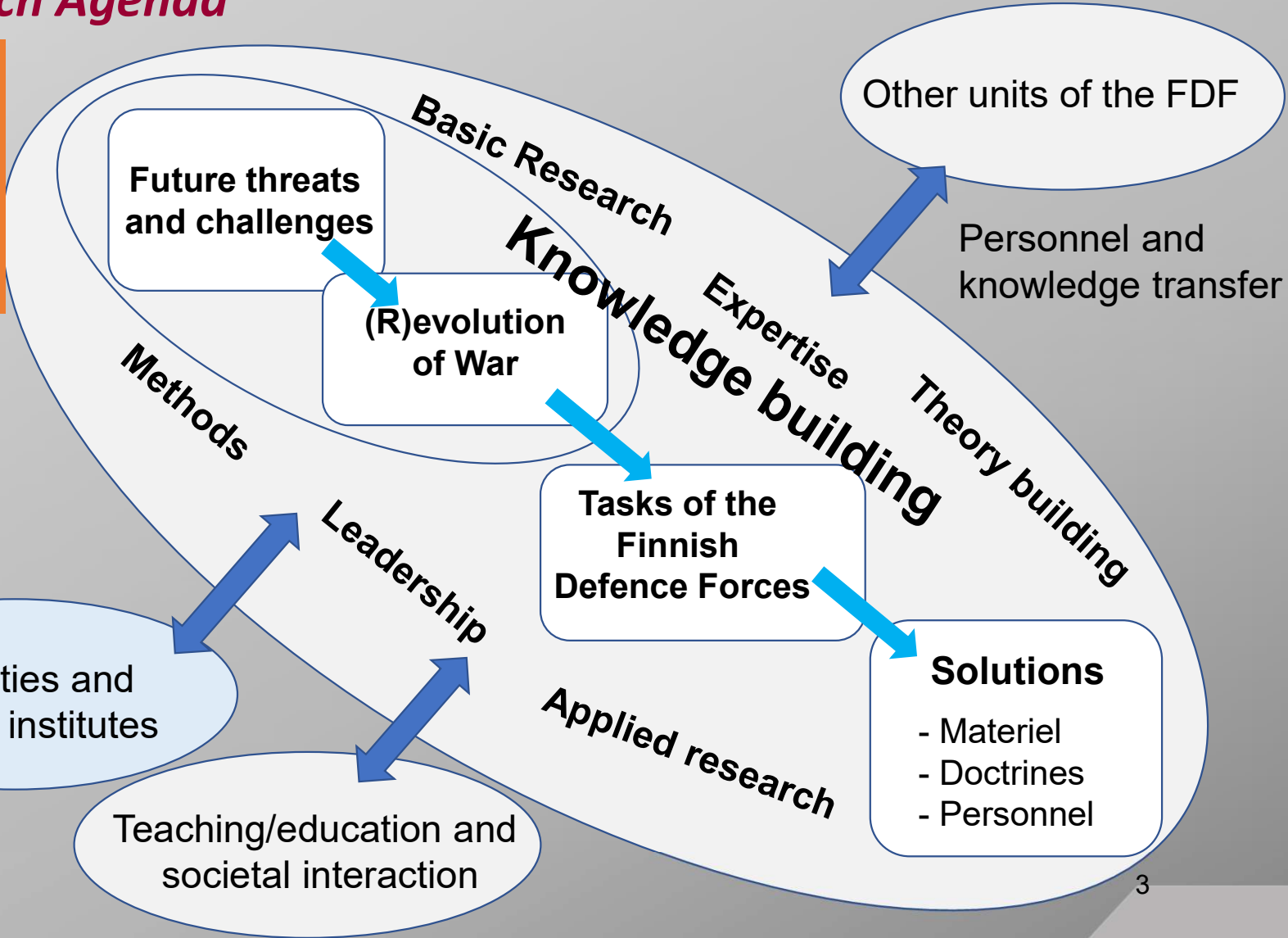
Surprise factors





Research Agenda

NDU strategic focus areas
2020 →:
Evolution of War & Russia
2025 →:
Finnish Art of War





Research Agenda

"Military drivers"

Russia

- Political/economical/military development
- Lessons learnt of war in Ukraine
- Disruptions in global security policy

Long duration of wars

- Comprehensive security
- Societal resilience
- War-economy

Speciatics in the "arctic" area

- Finnish operational environment
- Nato membership
- Article 3 & 5

Emergencing technologies

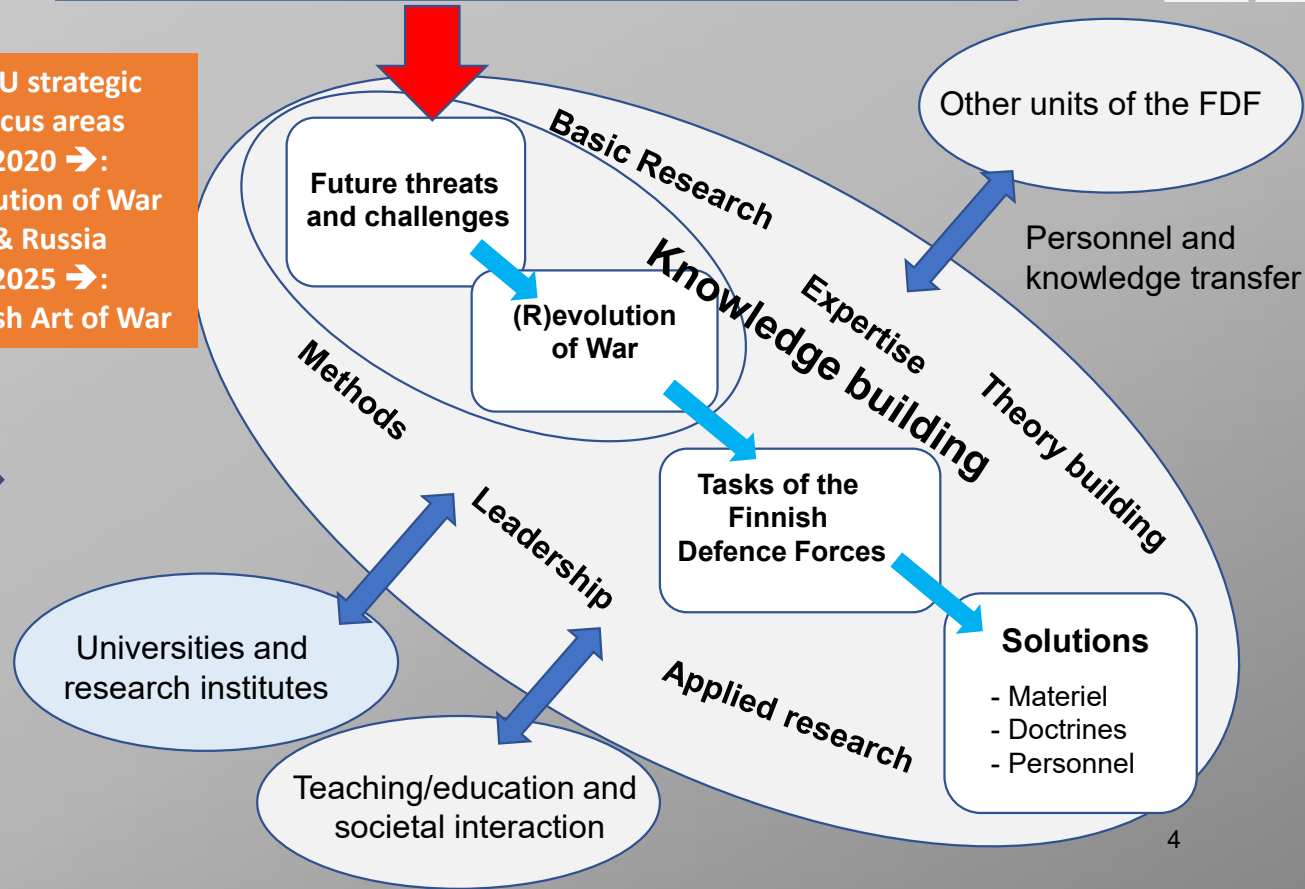
- Lessons learnt of war in Ukraine
- Technological threats and opportunities
- Agility in R&D&I

"Societal drivers"

- Demography, economy, social diversity, climate change, carbon-free energy, ...



NDU strategic focus areas
 2020 →: Evolution of War & Russia
 2025 →: Finnish Art of War





“Disciplines” of Research in Military Science(s)

Research director

2020-2024:

~60 researches, 35 person years,

~50 scientific publications/year

2025:

23 professor positions, out of which

- 5 joint professors, 3 donation funded

Human (“WHO”)

- Action competence
- Sociology
- Leadership and management
- Pedagogy
- Law
- Crisis management
- Comprehensive defence

Doctrines (“HOW”)

- Strategic studies
- Military strategy
- Operational art and tactics
- History
- Russia, NATO, China, EU
- Geopolitics/geoeconomy
- Intelligence studies

Materiel (“WITH WHAT”)

- Technology
- Acquisitions
- Cybersecurity
- Operational analysis
- Technology adaptation
- Artificial intelligence
- Physics, Mathematics

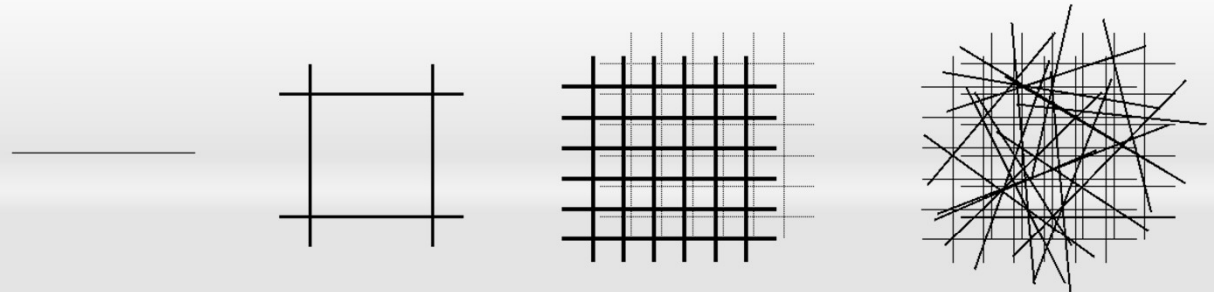


Research: Definition of "War" and "Enemy"

The dilemma is that the military have to cope with all the different types of conflict at the same time some of which they are not suited to do.

Concept of
"Rhizomethic War"
by
mil.prof Aki-Mauri
Huhtinen

Dimensions of War



Dimension: One-dimensional	Two-dimensional	Three-dimensional	Multi-dimensional
Structure: Line	Simple	Complex	Chaotic
Thinking: Practical	Tactical (Local)	Operational (Glocal)	Strategic (Global)
Welfare: Agriculture	Industry	Information	Experiences
Power: Family/Tribe	Nation state	Various organizations	Individuals and groups
War: Primitive wars (Agrarian)	Conventional (Industrial)	Networked war (High-tech)	Messy wars (Gang wars)





Research: Challenges of soldiership

Autonomous systems



Variety of soldiership



**Profession
“Business”**



**Draft
“Duty”**



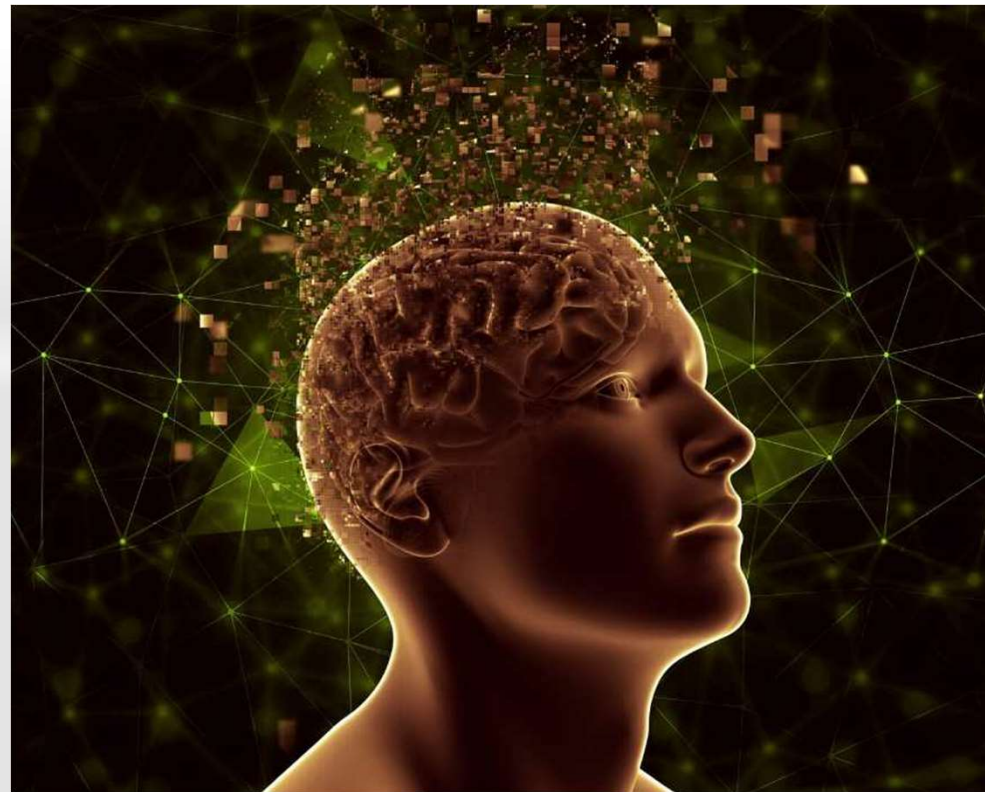
**Religion, etc.
“Ideology”**





Research: Assets of War and “game changing”

The Next Battlefield?





Doctoral program

- Follows Finnish university standard for doctoral qualifications (4 years full time working)
- Launched in 1998
- First “Doctor in Military Sciences” graduated 2003
- ~180+ persons in the doctoral program
 - ~75 officers
 - ~20 retired officers
 - ~70 civilians
 - 10+ foreign citizens

Rank	Total	≤ 2018	≥ 2019
≥ major	29 (39 %)	16 (47 %)	13 (27 %)
≤ captain	45 (61 %)	18 (52 %)	27 (68 %)

- 72 Doctors graduated by 1.10.2025
 - by gender: 65 male, 7 female
 - by nationality: 66 Finnish / 6 Foreign
 - by background: 44 (61 %) officers
11 (16 %) ret. officers
17 (23 %) civilian
 - by language: 53 (73 %) in Finnish
19 (27 %) in English

Research area	Doctorands (officers)	Doctors (officers)
History	23 (14)	17 (8)
Strategy	20 (11)	11 (7)
Leadership	27 (10)	13 (7)
Pedagogy	24 (9)	7 (3)
Sociology	8 (2)	1
Technology	15 (10)	6 (2)
Acquisition	11 (2)	7 (3)
Operational art and tactics	40 (16)	9 (7)
Behavior science	1	1
Total	~180 (75)	72 (37)



Sample research projects and publications

- 2020: Juha Kukkola: ***Digital Soviet Union: the Russian national segment of the Internet as a closed national network shaped by strategic cultural ideas***
Strategy of Russian Internet (RUnet)
https://www.doria.fi/bitstream/handle/10024/177157/Kukkola_Digital%20Soviet%20Union_finalnet.pdf
- 2020: Antti Vasara: ***Theory of Reflexive Control : Origins, Evolution and Application in the Framework of Contemporary Russian Military Strategy***
Understanding Russian way of controlling people
https://www.doria.fi/bitstream/handle/10024/176978/Vasara_FDS22_Theory%20of%20Reflexive%20Control%20%28web1%29-1.pdf
- 2018: Prof. emeritus Vesa Kanninen: ***Essays in national defence***
Pre-emptive cyber attack lowers the threshold of usage of the conventional weapons
<https://www.doria.fi/handle/10024/160028>
Article “Cyber Technology and Arms Race” available at
<https://helda.helsinki.fi/bitstream/handle/10138/176242/HECER-DP409.pdf>
- 2014: Anders Palmgren: ***Visions of Strategy – Following Clausewitz’s Train of Thought***
New findings on Clausewitz
https://www.doria.fi/bitstream/handle/10024/170675/Palmgren_VisionsOfStrategy_web.pdf



NATIONAL DEFENCE UNIVERSITY



Nomination of the
President of Finland,
Sauli Niinistö
as Doctor Hc. in Military Sciences
at National Defence University,
09/2018

Thank you!

Q&A

