STRATEGIC INTELLIGENCE ANALYSIS
Concepts and Challenges

Marco Cepik

CONTENTS

1

CONCEPTS

Definitions

1 – Strategic Intelligence Analysis (SIA) develops synthetic evaluations (probabilistic **estimates** and structured **scenarios**) about medium to long-term political trends and threats. SIA aims to reduce, not eliminate, uncertainty from the decision-making process.

2 – Trends emerge from the continuous, non-linear, and irreversible interactions between contexts, structures, and multiple actors. Changes are abrupt and do not follow random patterns, preventing smooth adaptation. Decisions about trends, threats, and complex problems depend on cooperation and knowledge.

3 – Humans devise various social mechanisms and institutions to cope with asymmetries and uncertainties involved in the collective decision. Intelligence is just one information flow, among others. Structured Analytic Techniques (SAT) are a set of procedures and principles to improve quality, reduce bias and enable interdisciplinary cooperation in the area of Intelligence (PHERSON & HEUER, 2020).

4 – Intelligence is knowledge **AND** power. Truth serves victory and survival in this realm. Under a genuinely democratic political regime, civilian and military intelligence agencies must be subjected to institutionalized controls of legality, analytical integrity, and quality in the performance of their constitutional functions.


This General Circumstance
Predictably leads to
This General Consequence
More Knowledge
Better Decision Making
As a valid instance...
Ceteris Paribus
As a valid instance...
More Strategic Intelligence
Better Security Decision Making
This Specific Circumstance
Let us infer
This Specific Consequence

Questions

1 - Why individual and collective actors face tradeoffs between strategic and tactical uses of intelligence?

2 - What are the potential consequences of neglecting SIA?

3 - How to improve SIA practices in Latin America?

Hypotheses

1 - Actors face time and resource constraints to decide and act upon perceived threats. Therefore, individuals and groups have strong incentives to trade long-term, broad interpretative knowledge for focused, evidence-based, actionable intelligence of tactical and operational nature.

2 – Current technology trends favor collection capabilities. Even if Artificial Intelligence (AI) changes it in favor of analysis, the short and long-term tradeoffs will remain. Neglecting strategic intelligence reduces the ability to cooperate, win, and survive emerging trends and threats that sheer adaptation cannot cope with..

3 – To improve SIA in Latin America and Caribbean countries, governments, and other stakeholders need: **a)** SAT proficient military and civilian intelligence cadres. **b)** Political leadership devoted to societies' equitable, solidary, sustainable, and emancipatory development. **c)** External control bodies with the technical and political capacity to demand legal compliance, analytical integrity and relevance of inputs provided by intelligence to national security decisions.

Assumptions

International security is not governed by automatic processes of mutual adjustment.

Choice and chance are pervasive, given structural and contextual frameworks, and time is irreversible.

Each actor has to care for their own survival and goal achievement, through peaceful cooperation and occasional violent interactions that are hard to predict.

Institutions matter, as indicated by the recurrence of alliances, balances, and international rules and organizations.

The political nature of war and peace makes strategic intelligence analysis a requirement for any actor.

2

CONTEXT

Complex Transitions

- Demography
- Climate
- Energy
- Technology

Why complex?

Those four major global transitions (in demographics, energy resources, climate and in technological infrastructure) happen in areas with higher potential to cause disruption and to challenge cooperation.

These historical transitions are also linked and influence each other ceaselessly.

How the International System evolves?

By changing the context in which actors interact, the availability and dispositions of resources impact each state's material capabilities.

The four transitions are drivers for change in actors' behaviour.

They also impact the foreseeability of their actions.

As structures constrain actors' strategic choices, through social mechanisms of securitization, conflict, and cooperation, their interactions generate the very structural changes that will continue to set boundaries for them in the future.

Structures are not destiny.

Demographic transition

- Transition from high fertility and mortality rates to something close or below the replacement level of the population (2.5 children per woman in 2019, 2.2 in 2050 and 1,9 in 2100).
- UN estimate: from 7 billion in 2011 to 9,4 to 10,1 billion in 2050.
- Growth is slowing down, most of it will occur in Africa and Asia.
- Relative aging (average age over 45 years) in the richest countries.
- 68% of the world's population will be urban by 2050.

Source: United Nations (2018; 2019)

Global Population Trends 1950–2100

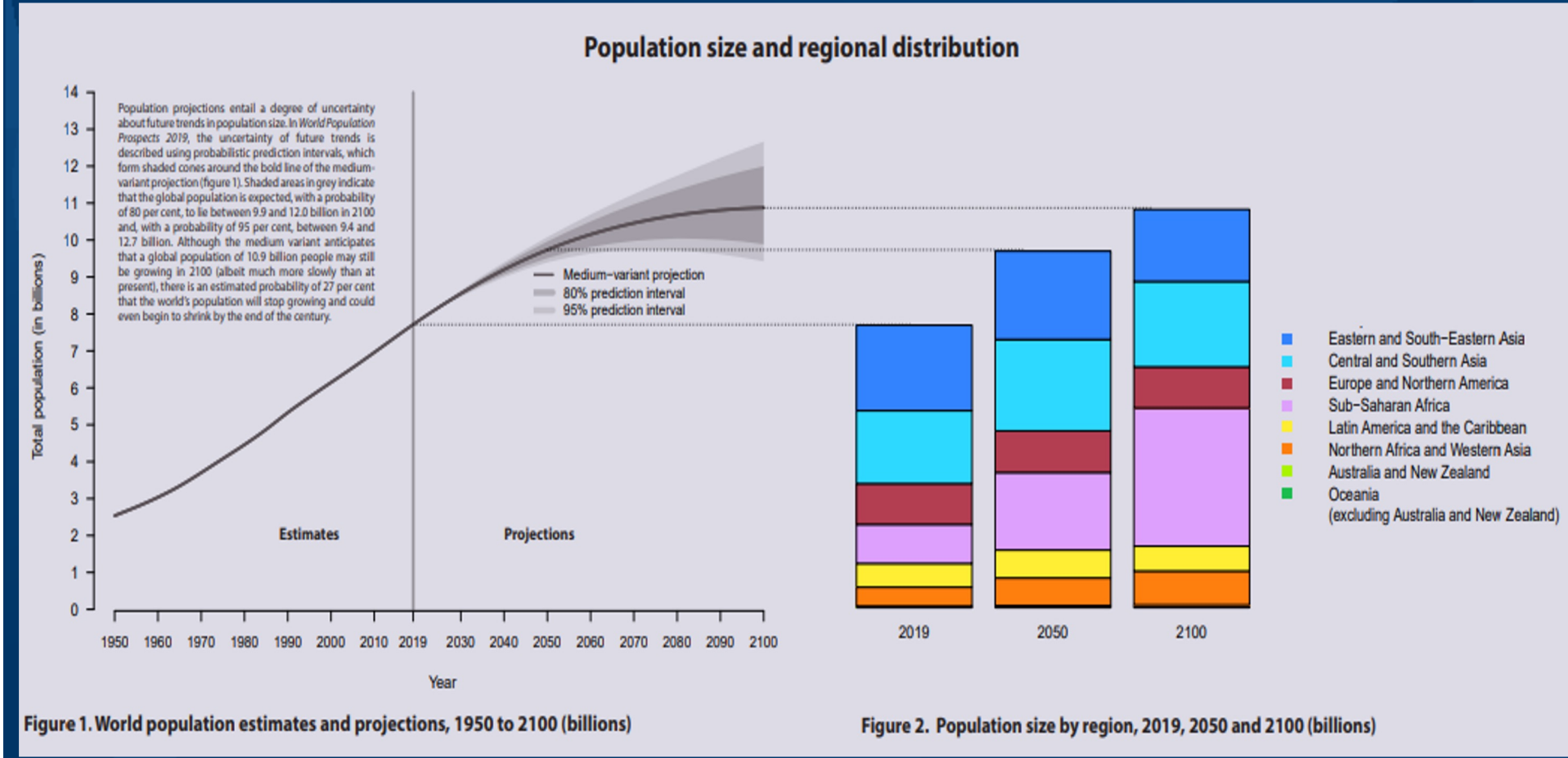
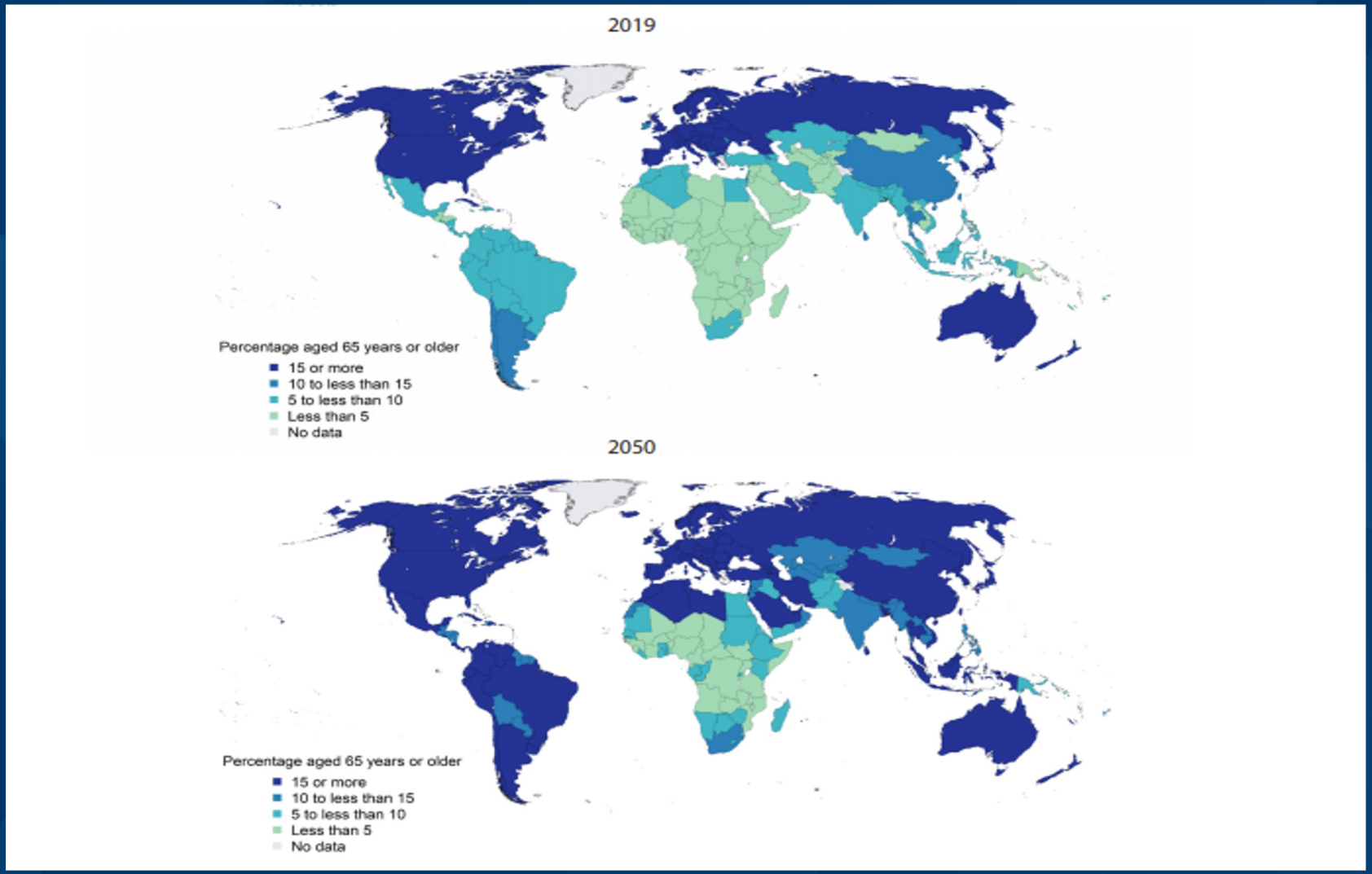


Figure 1. World population estimates and projections, 1950 to 2100 (billions)

Figure 2. Population size by region, 2019, 2050 and 2100 (billions)

Source: UN (2019)

Population Aging



Source: UN (2019)

Demographic Uncertainties and Risks

How will developing countries deal with the demographic bonus and / or the pressure of accelerated urbanization?

How will the central capitalist countries deal with the increased scale of migration?

What are the effects of population growth on resources, misery, inequalities and intra and interstate conflicts?

Climate change

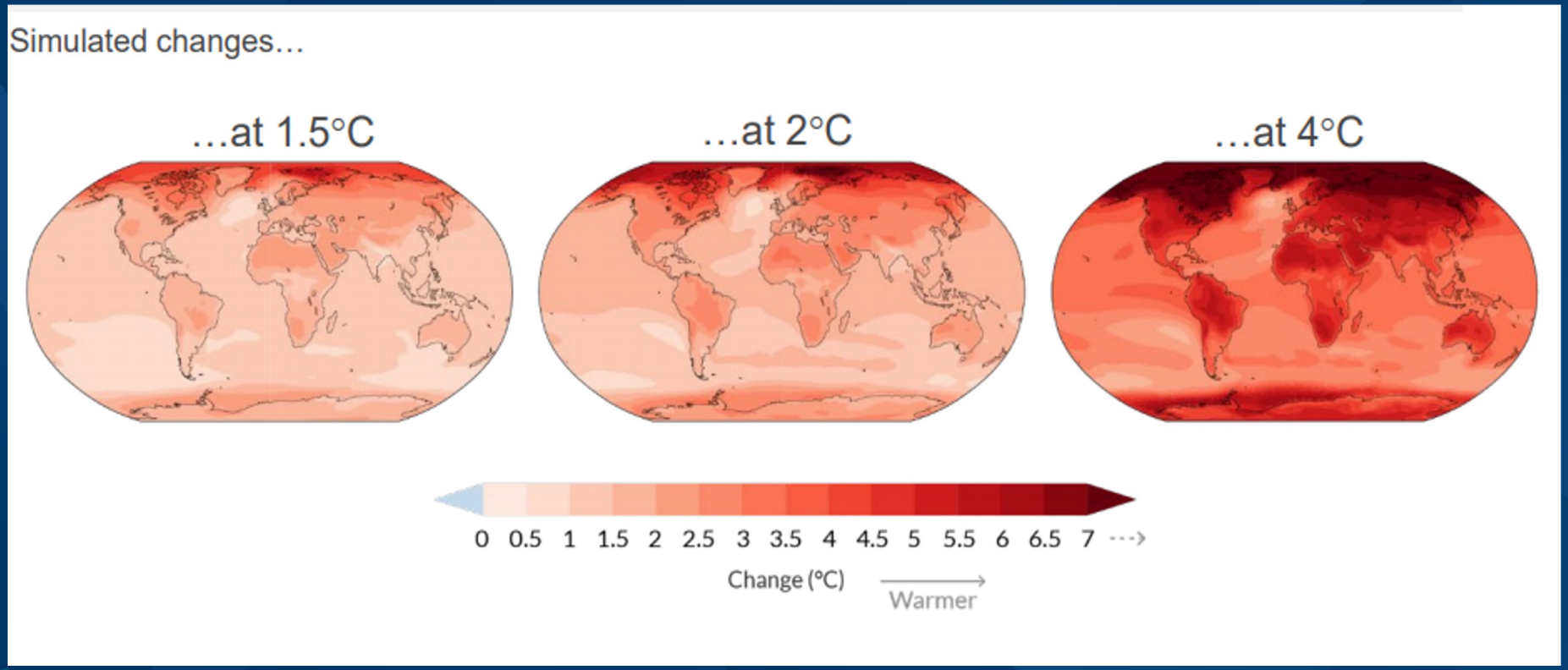
Change in the statistical distribution of weather patterns at different temporal and spatial scales.

Causes range from ecological and geological factors to variations in solar radiation.

Human factors include deforestation, pollution, degradation, and global warming.

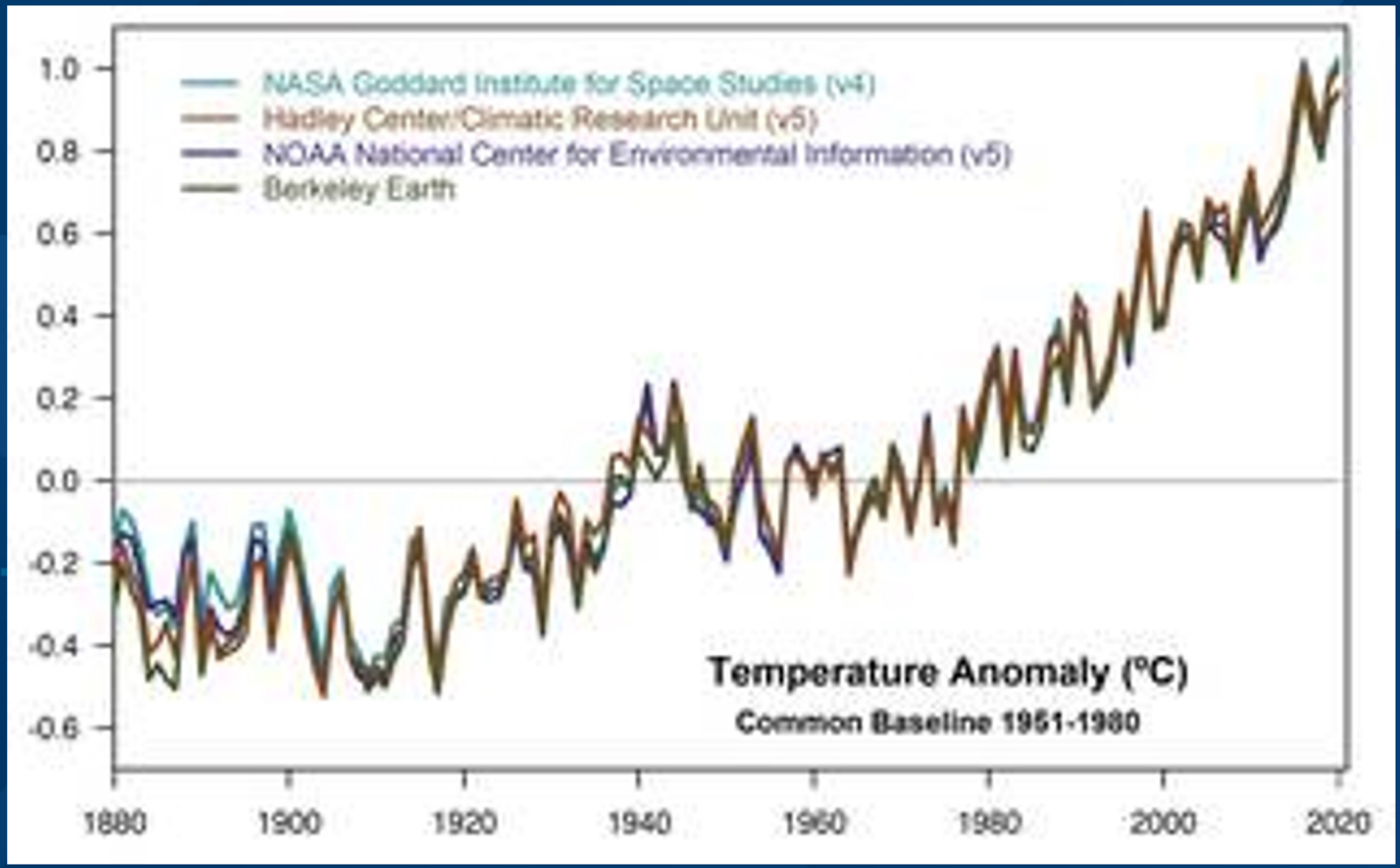
Average temperature rises due to increasing rates of greenhouse gases (e.g. methane and carbon dioxide) in the atmosphere.

Simulating World Impact



Source: IPCC (2021)

Anomalies and average temperatures (1951-2020)

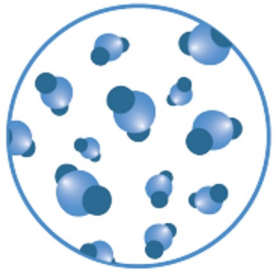


Thermic anomaly (c)

Year

Source: NASA (2021)

Climate Change Risks

CO_2 concentration	Sea level rise	Arctic sea ice area	Glaciers retreat
			
Highest	**Fastest rates**	**Lowest level**	**Unprecedented**
in at least	in at least	in at least	in at least
2 million years	**3000 years**	**1000 years**	**2000 years**

Extreme heat	Heavy rainfall	Drought	Fire weather	Ocean
More frequent	More frequent	Increase in some regions	More frequent	Warming
More intense	More intense			Acidifying
				Losing oxygen

Source: IPCC(2021)

Current effects

Melting of ice caps; acidification of the oceans, reduction of marine and terrestrial faunas; storms and other natural disasters around the globe; water scarcity and reductions in world agricultural production (Climate Council, 2015).

Climate Change and Conflict

- Effects of climate change are unequal among nations and social groups
- Potential causes of conflict: direct (control over resources) and indirect (unequal vulnerabilities).
- Temperature change predictions range from 0.3 to 1.7 °C, and from 2.6 to 4.8 ° C. Even the most optimistic predictions would lead to effects with high potential of conflict.
- Monitoring and analyzing these effects are crucial for international security.

Energy Transition

Transformations in public policies, raw materials and technologies used for the production, distribution, storage and consumption of energy.

Matrix based on fossil fuels transitioning to a renewable, more sustainable one.

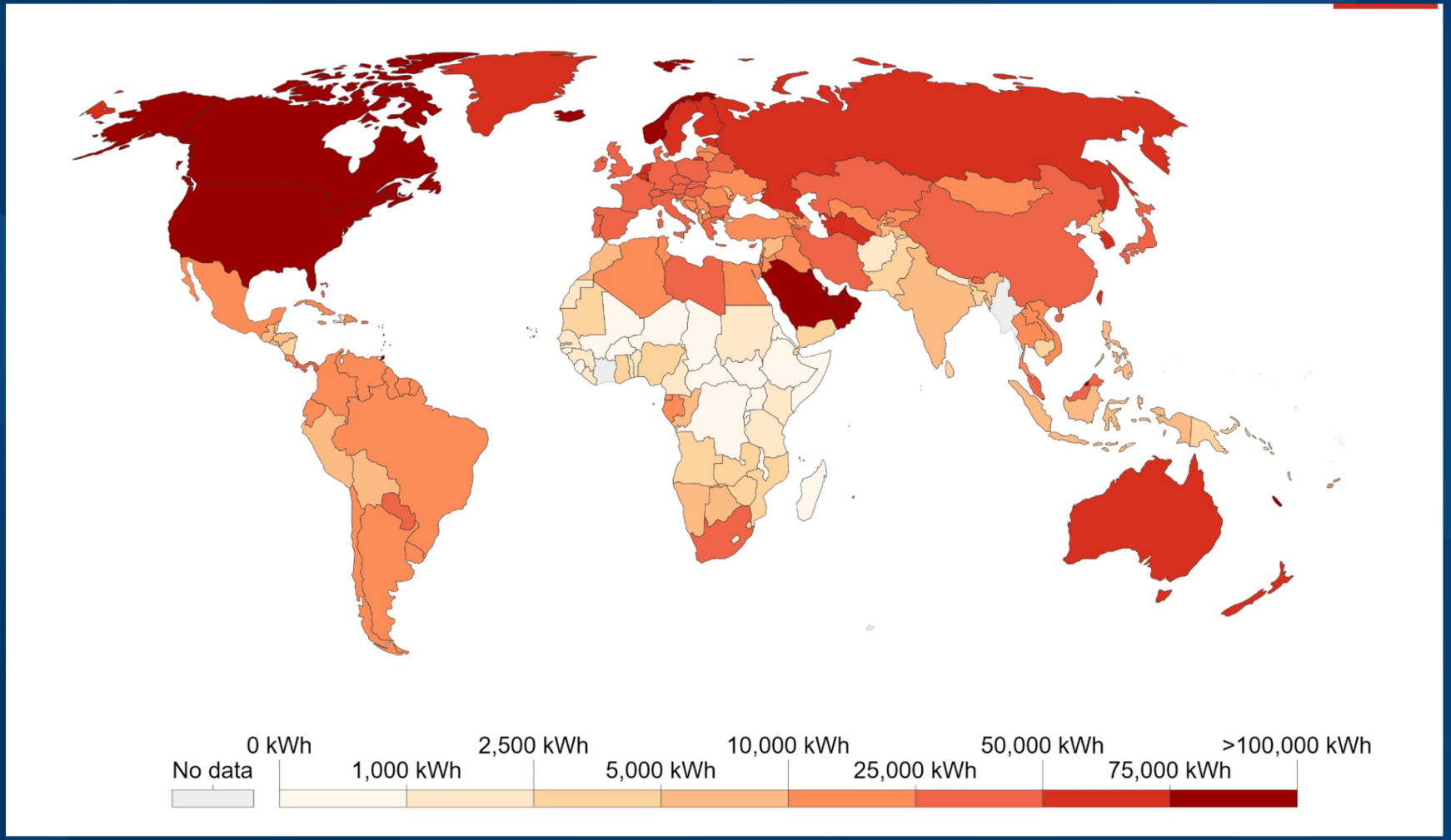
Uncertainties and risks

Distributive conflict at the national, regional and global levels on energy consumption patterns, access to resources and technology, strategies on world fossil fuel reserves and energy matrix profile.

Hard Facts

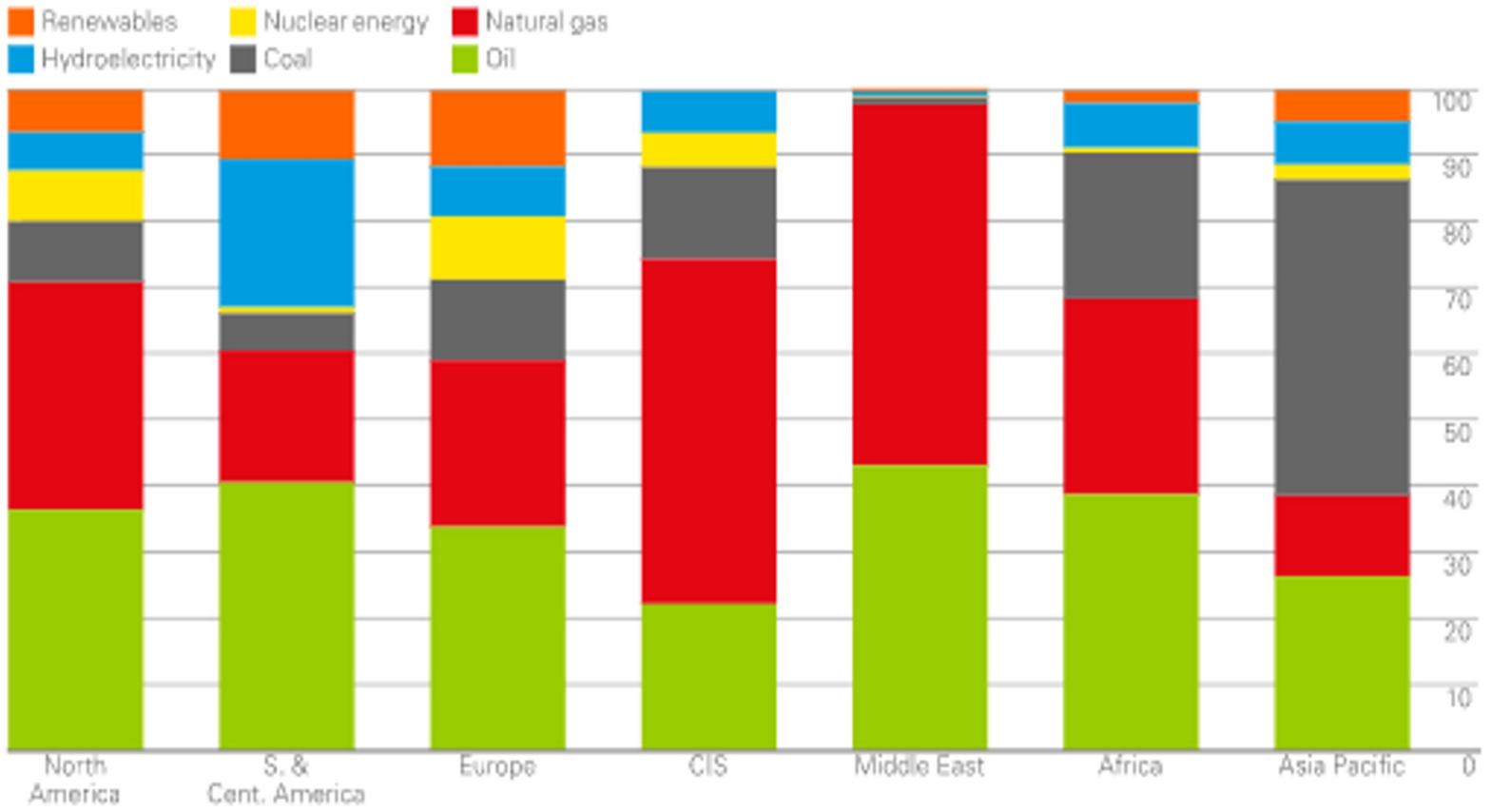
- 759 million people do not have access to electricity, and while during the last decade a greater share of global population gained access to electricity, the number of people without in Sub-Saharan Africa increased. (IRENA, 2021)
- 40% of global population do not have clean fuels for cooking (IRENA, 2021)
- OECD countries consume 37% of the world's electricity. Africa consumes 3.5% (IEA, 2019).
- Coal remains the dominant fuel for power generation: 37% of global electricity production in 2019 (IEA, 2019).

Energy consumption per capita 2019



Source Our World in Data (2021)

Regional Consumption Pattern 2020



Source: BP (2020)

Challenges

Provide electricity to the world's growing population (mainly in Africa and Asia)

Manage conflict and geopolitical divergences in oil producing regions (Africa, Middle East, and South America).

Technological Transition

Flows of innovations that revolutionize production and consumption, interaction capacity (communication and transportation), organizational forms and social relations.

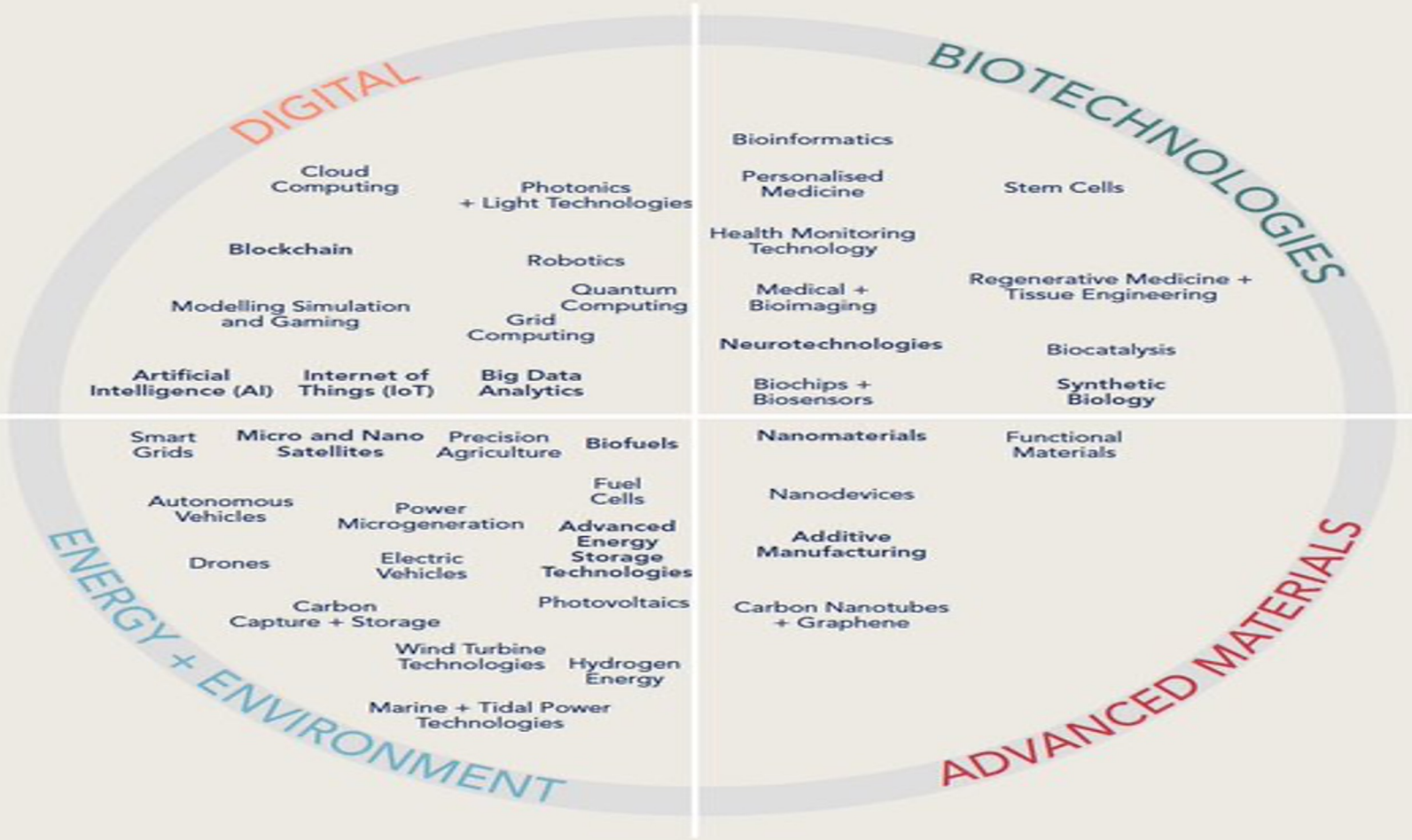
Converging and Unpredictable

Convergence between digital, biological, energetic and material technologies.

Annual global IP traffic increases from one zettabyte in 2016 to 2.3 ZB in 2020, when there will be 3.4 connected objects for every inhabitant of the planet (CISCO VNI, 2015).

Technological Trends 2018

FIGURE 2: 40 key technologies for the future.



Technological Trends 2021

Technology trends and underlying technologies

Industry-agnostic trends

1 Next-level process automation...

Industrial IoT[1]

Robots/cobots[2]/RPA[3]

... and process virtualization

Digital twins

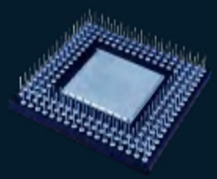
3-D/4-D printing

2 Future of connectivity

5G and IoT connectivity

3 Distributed infrastructure

Cloud and edge computing



4 Next-generation computing

Quantum computing

Neuromorphic chips (ASICs[4])

5 Applied AI

Computer vision, natural-language processing, and speech technology

6 Future of programming

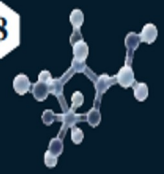
Software 2.0

7 Trust architecture

Zero-trust security

Blockchain

Industry-specific trends



8 Bio Revolution

Biomolecules/"-omics"/ biosystems

Biomachines/biocomputing/augmentation

9 Next-generation materials

Nanomaterials, graphene and 2-D materials, molybdenum disulfide nanoparticles

10 Future of clean technologies

Nuclear fusion

Smart distribution/metering

Battery/battery storage

Carbon-neutral energy generation

1. Internet of things. 2. Collaborative robots. 3. Robotic process automation. 4. Application-specific integrated circuits.

McKinsey & Company

Uncertainties and Risks

Does technological transition mitigates effects of demographic and climatic transition?

Exponential growth of inequalities and/or horizontalization of capacities?

Effects of robotization, 3D printing, artificial intelligence, biotechnology and nanotechnology on war and economy.

Coda

Risk of wars because of increased demand, reduced access, and diminished quality of natural resources: water, oil, land, and minerals (Barnett; Adger, 2007).

Risk of violent social conflicts, including insurgency and terrorism, given the increase in refugee flows, inequalities, and intolerance.

New geostrategic spaces resulting from climate change, from the Arctic to the Antarctic.

The rapid development of productive forces and strengthening of reversal of globalization and regionalization are based on gray zones between war and peace (Hammes, 2016).

3

Structures

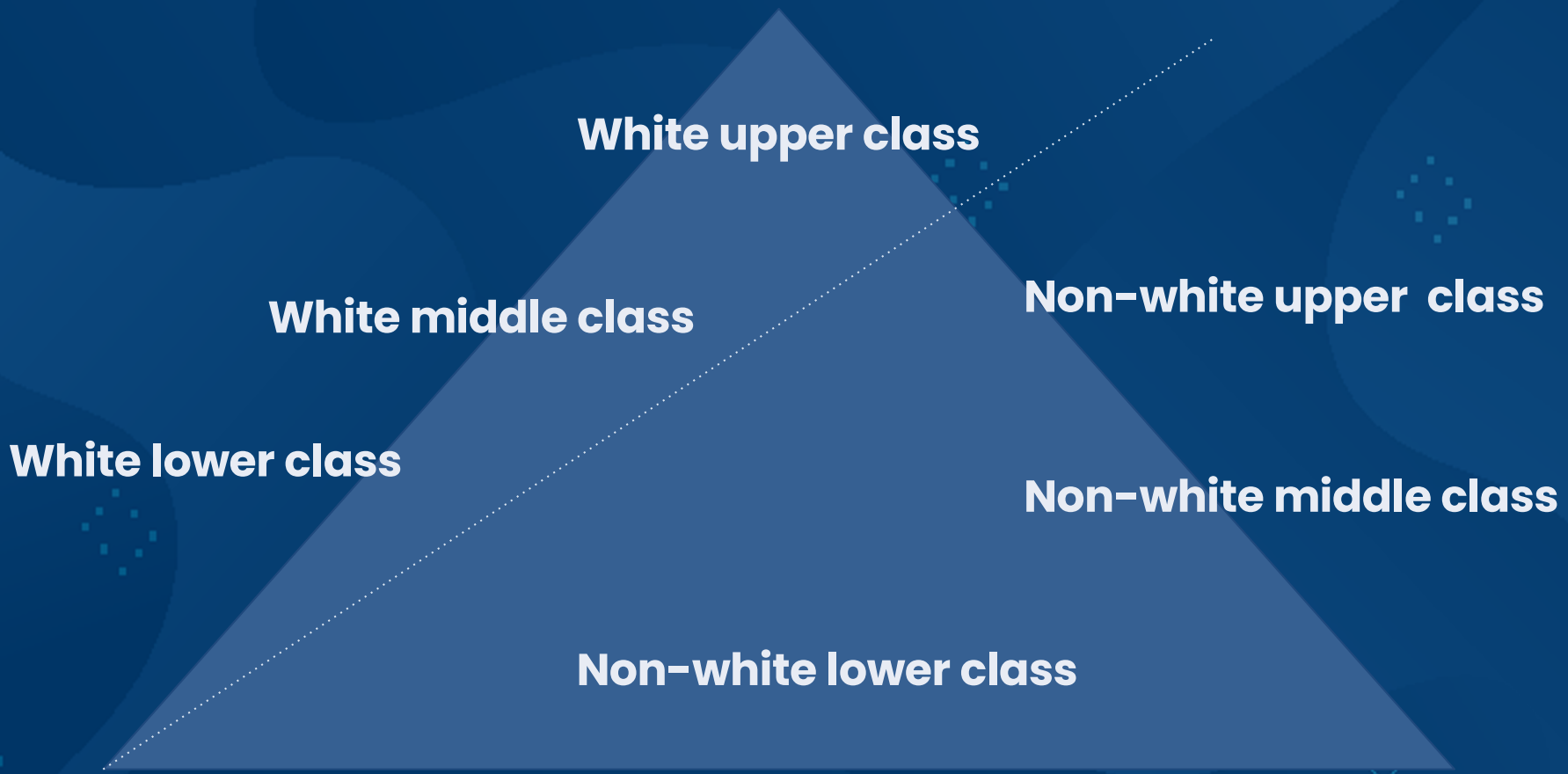
Interactions take place under the constraints of a given structure and changing contexts.

Therefore, it is essential to understand this factor before proceeding to the analysis of problem-areas.

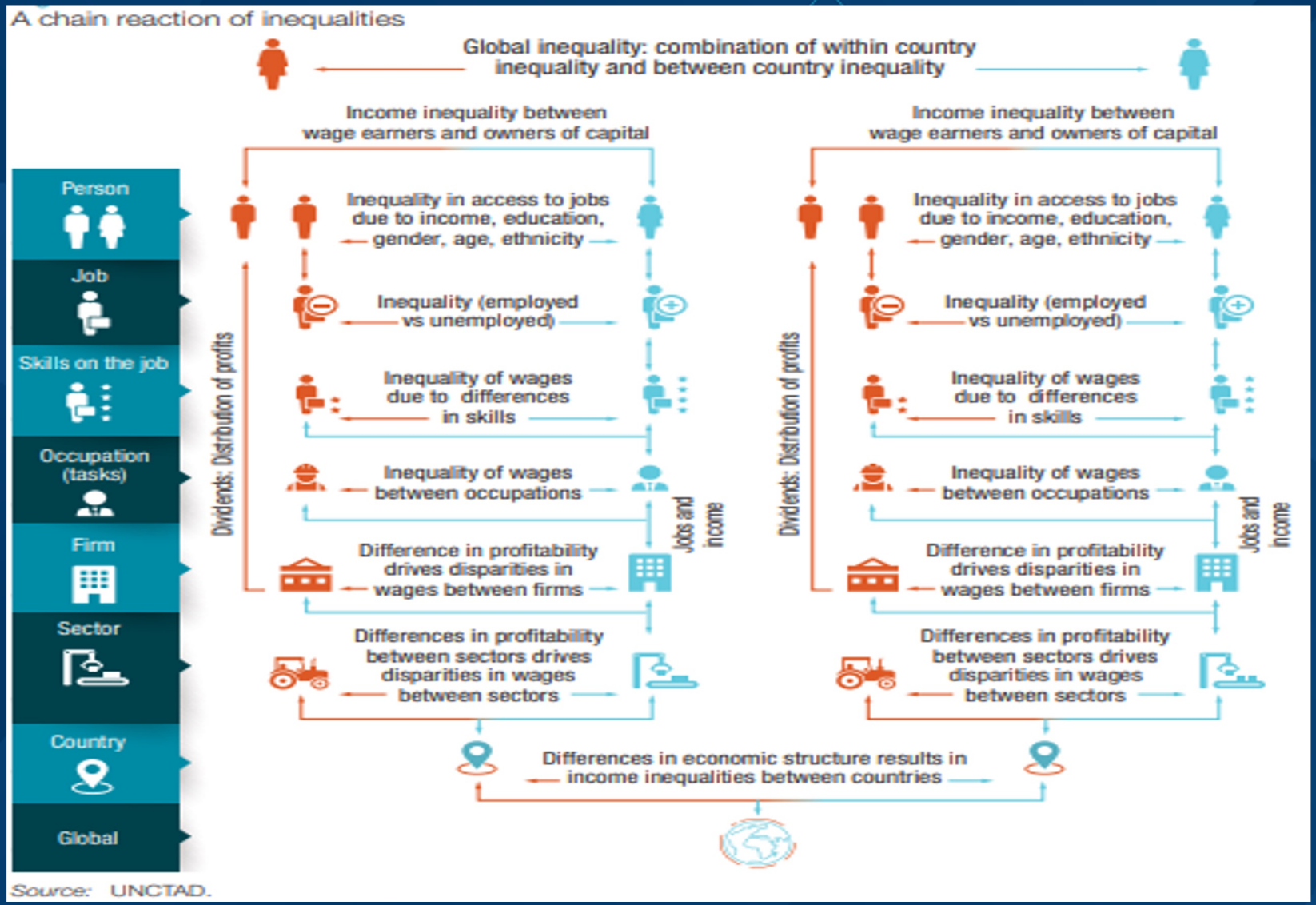
INTERNATIONAL STRUCTURES

- Social System
- Economic System
- Political System

Social System

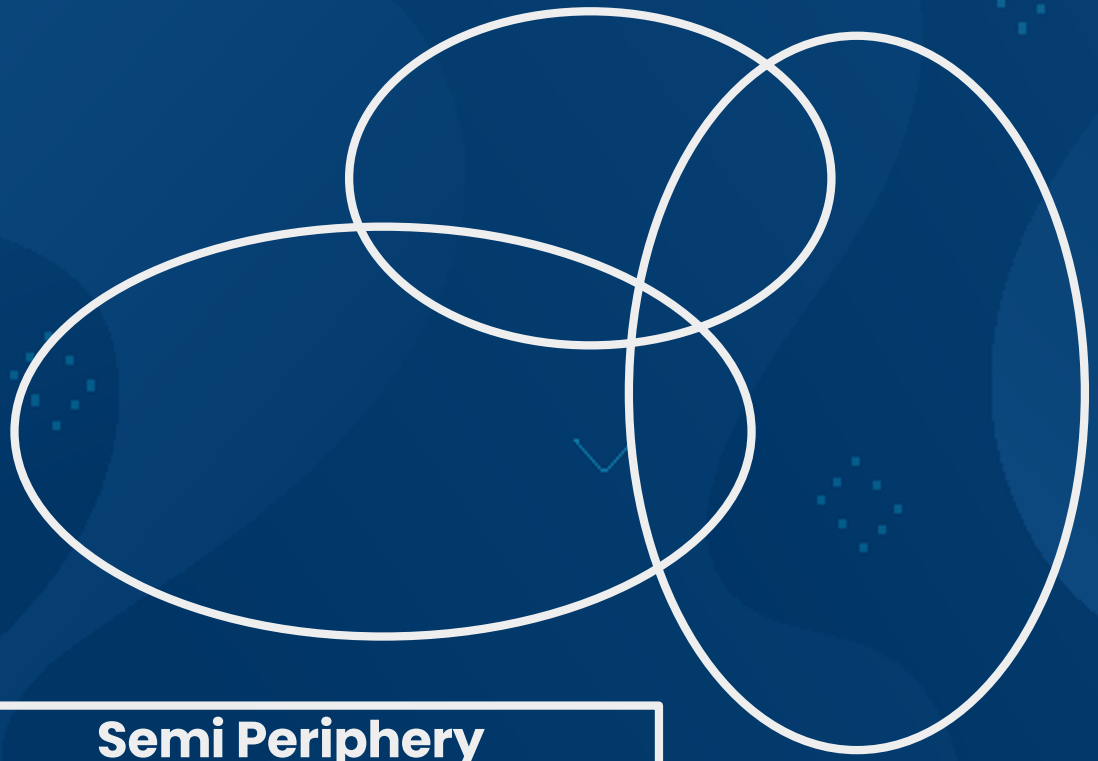


Social System



Economic System

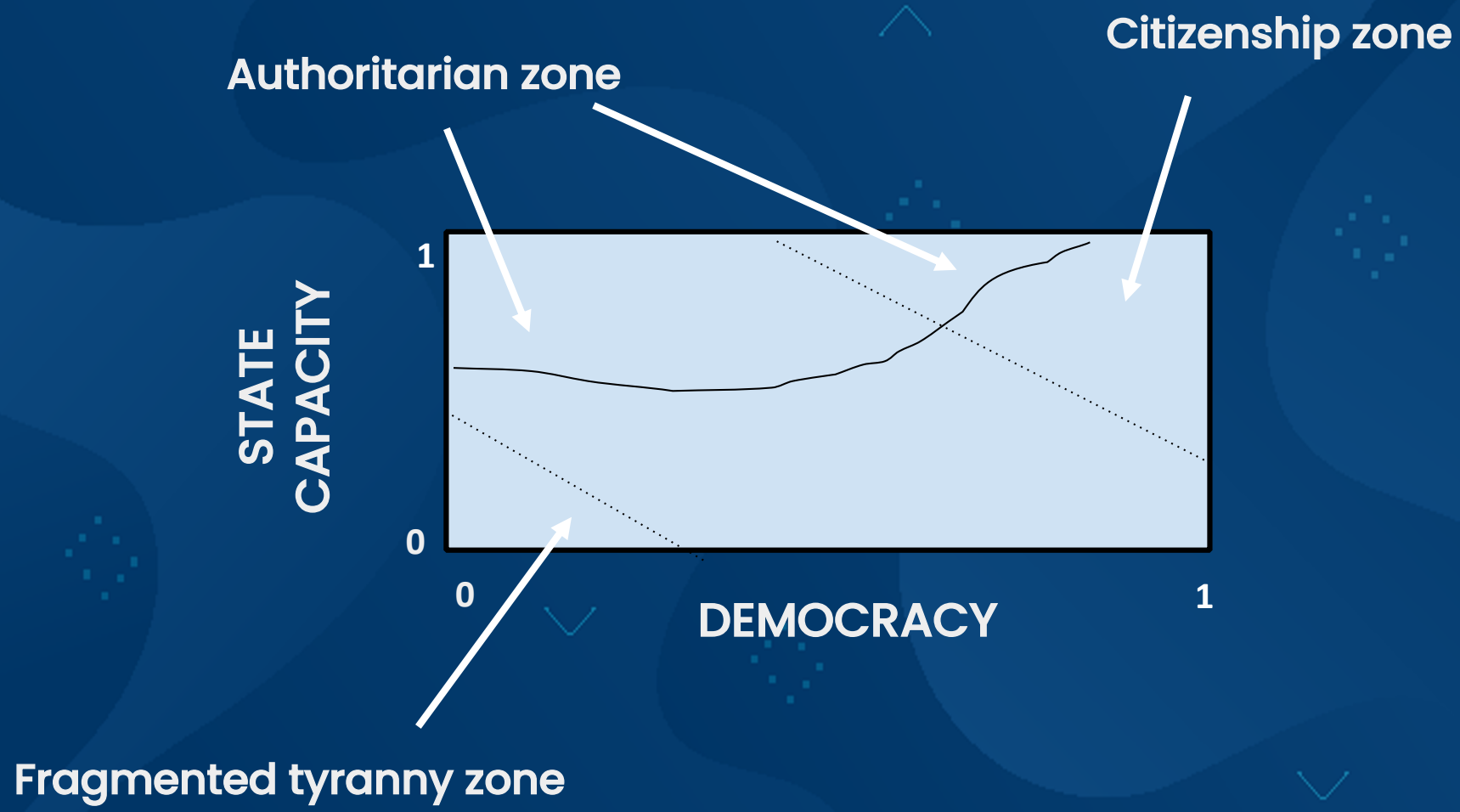
Organic core
Innovation / Knowledge



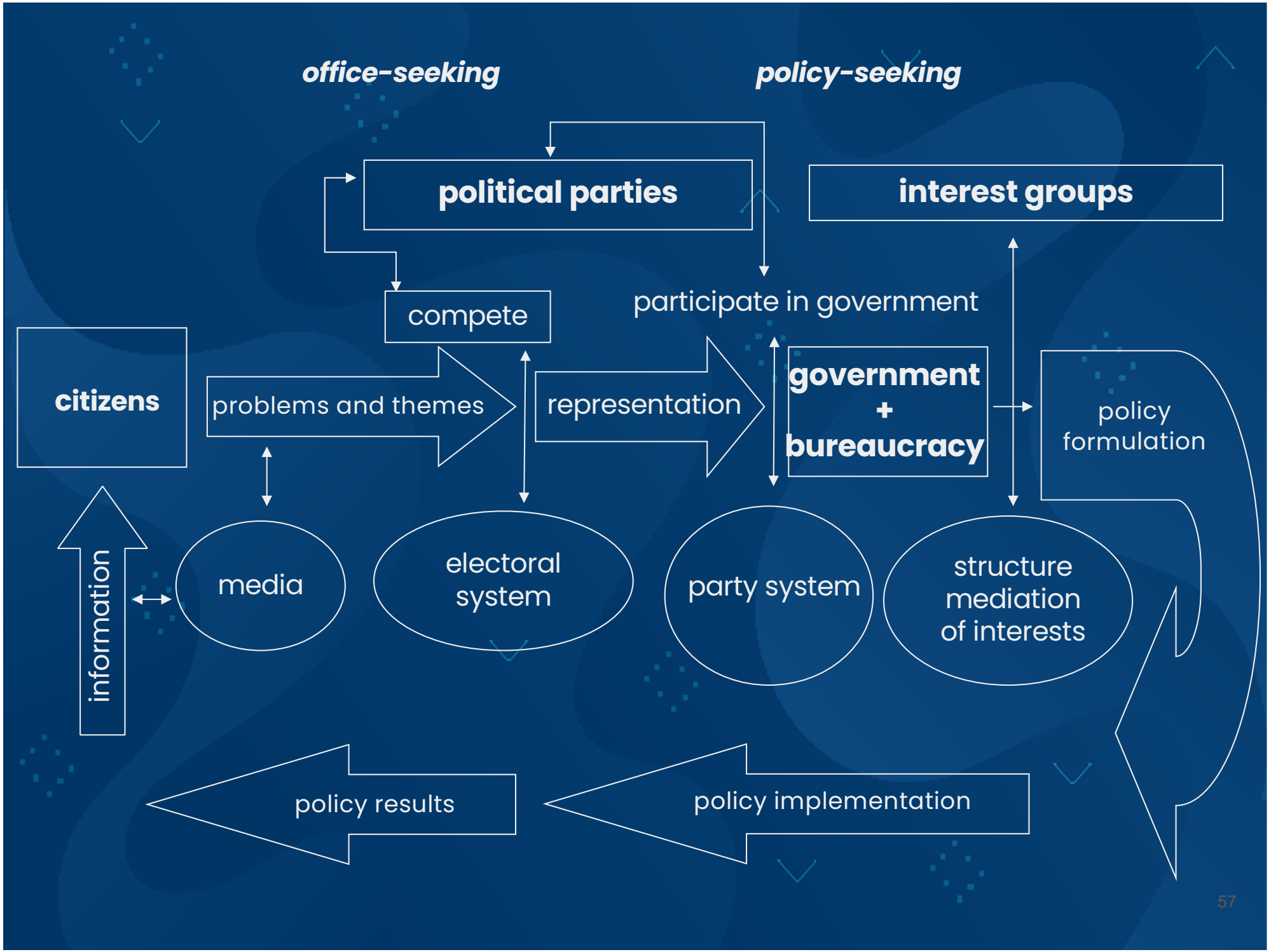
Periphery
Consumption /
Primary

Semi Periphery
Production / Secondary

Political System



Source: TILLY (2003)


office-seeking
policy-seeking
political parties
interest groups
compete
participate in government
citizens
problems and themes
representation
government + bureaucracy
policy formulation
information
media
electoral system
party system
structure mediation of interests
policy results
policy implementation

From Structures to Interactions

- Capacity to achieve ends is an attribute of each unit.
- Survival is a precondition (security and well-being)
- Capability distribution is structural (Waltz,1979)
- Great Powers concentrate diverse capabilities
- Degree of power concentration: multi, bi or unipolar.

Power

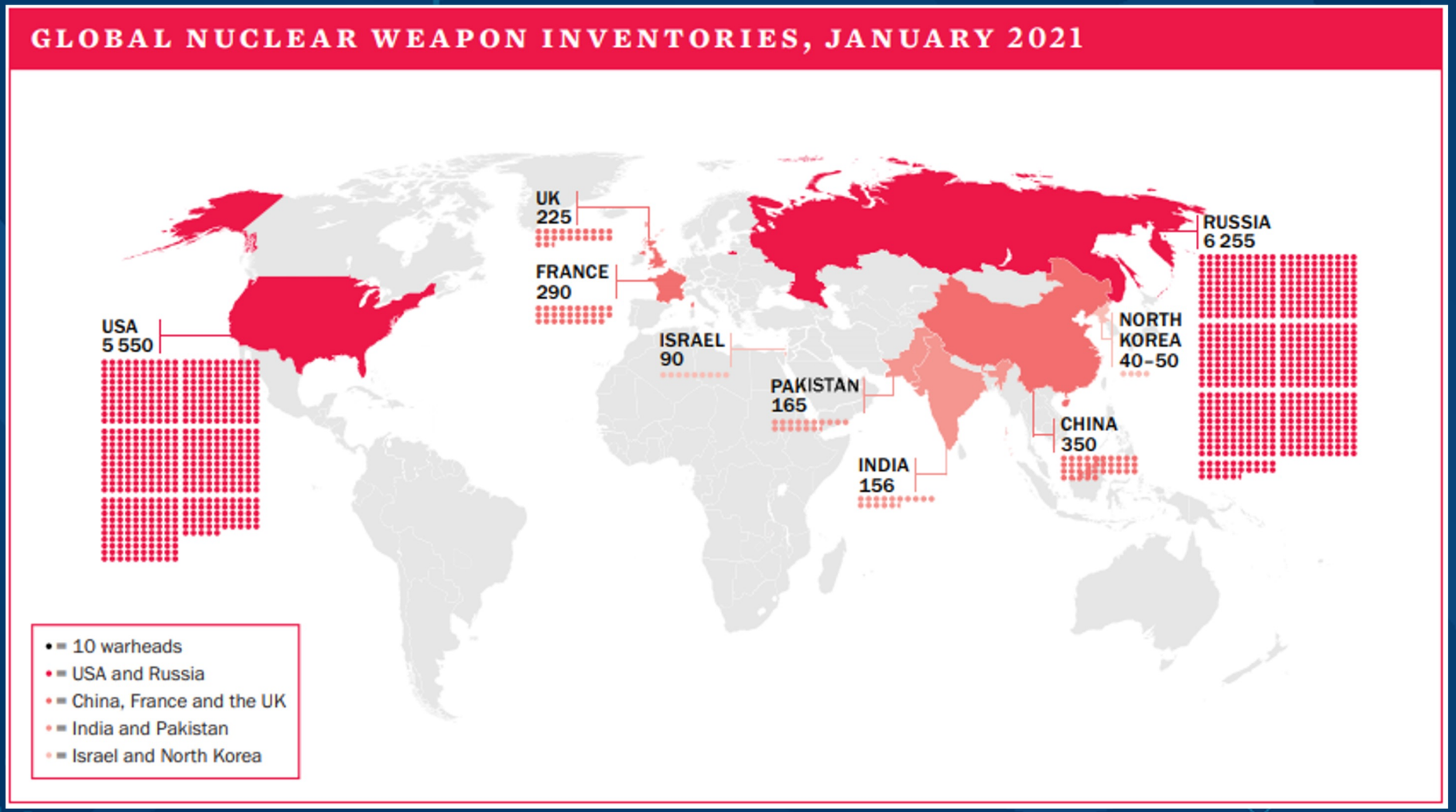
- Power: achieve ends (absolute gains) and to impose limits on other units (relative gains).
- Relational dimension of power is negative (deterring) or positive (compelling).
- Specific military capabilities (Mearsheimer, 2001) and how to use them (Biddle, 2004) are decisive in conflict between units (polarization)
- **Nuclear**, **space**, and **conventional** military capabilities define a state's position in the global political structure of power
- Institutional and soft power matters, but hard power still define hierarchy in the international political system

Nuclear Capabilities

- The security of a country with nuclear systems, but without robust C2 capabilities and early warning is diminished (Diniz, 2016).

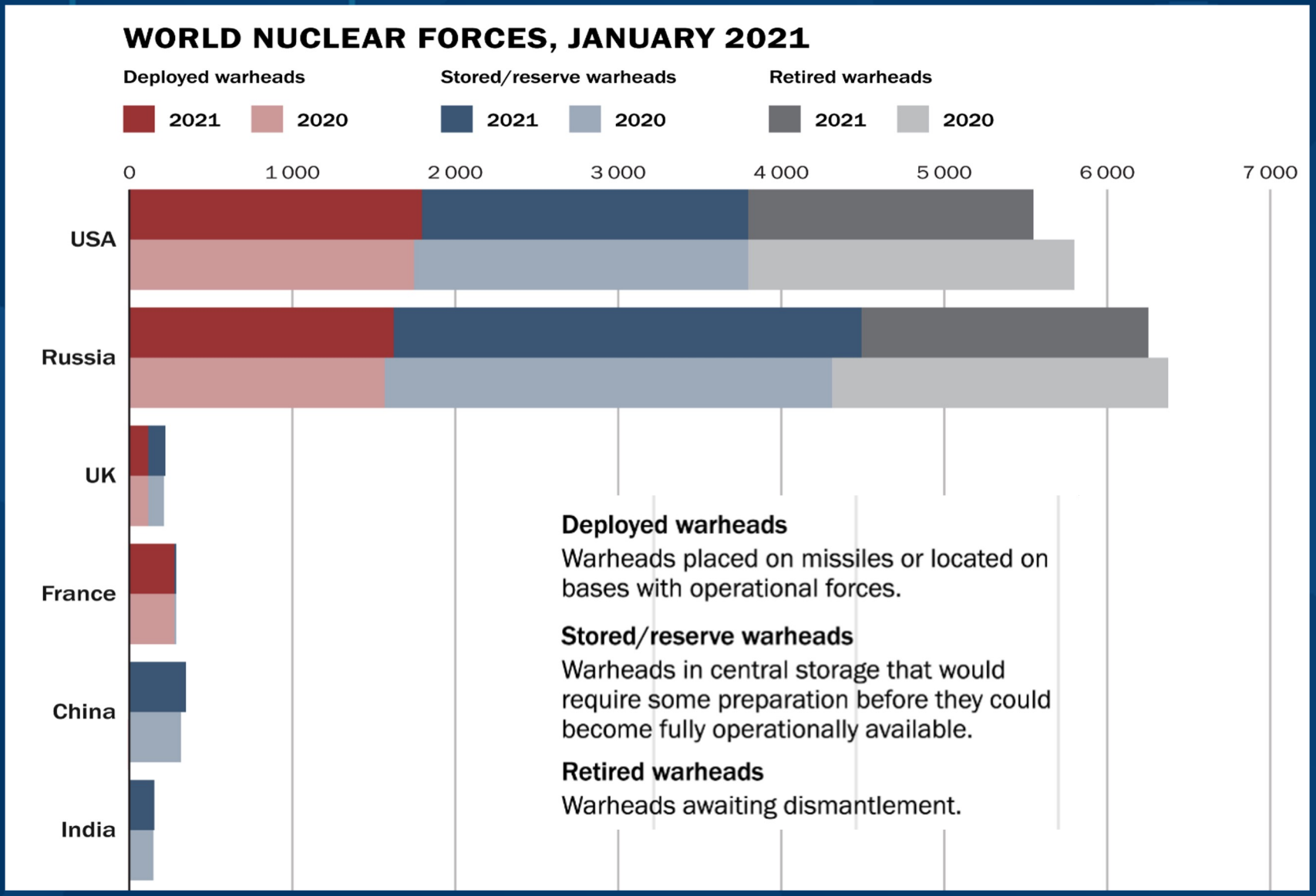
- Nuclear Second Strike Capability: capacity to retaliate a nuclear strike with a second nuclear strike, making attacking costs greater than the benefits.

- Strategic Triad: nuclear warheads, nuclear propelled submarines ballistic missile launchers (SSBN) and strategic bombers (ALCM).



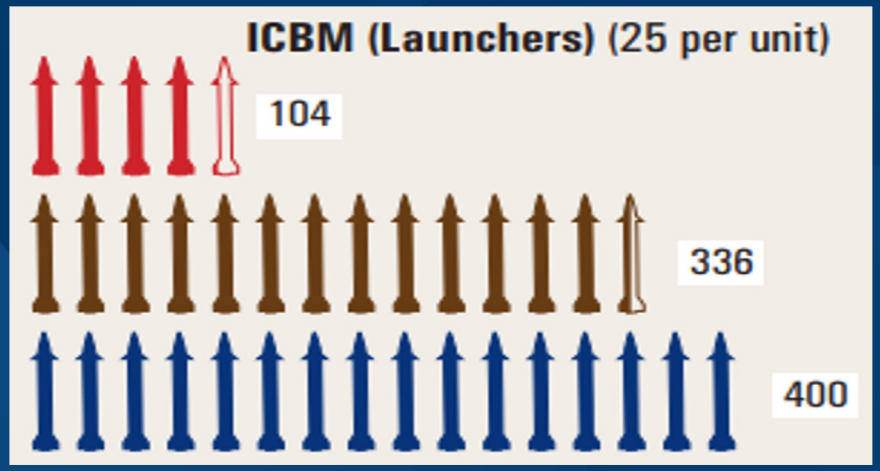
Source: IISS, 2016

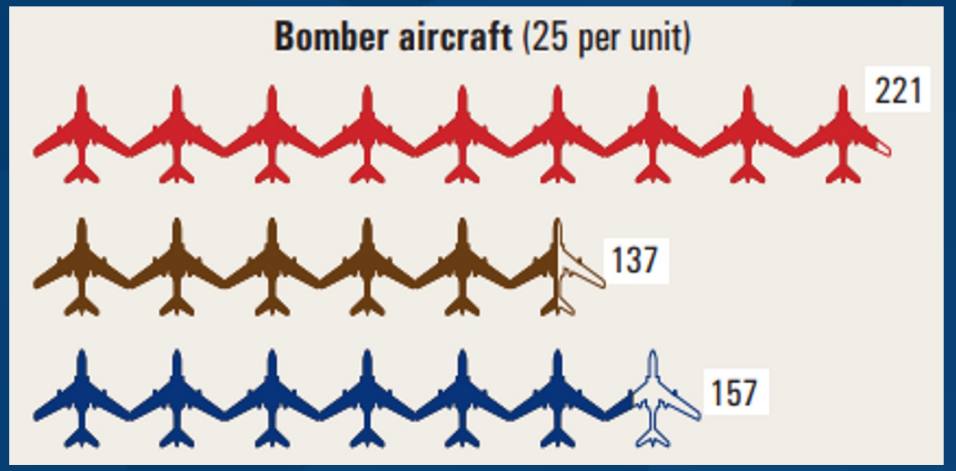
Source: SIPRI Yearbook Summary(2021).

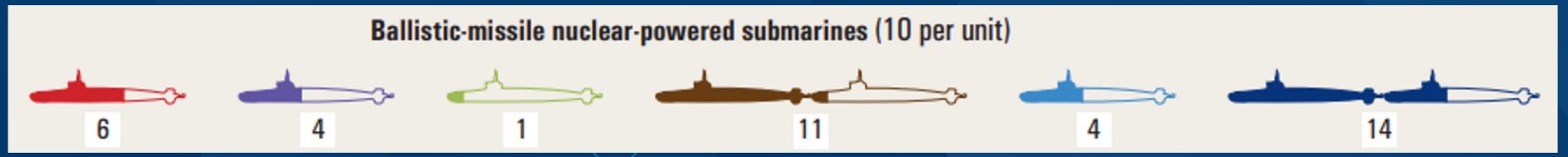


Source: IISS, 2016

Source: SIPRI (2021)







Source: IISS, 2016

Source: The Military Balance 2021

	Warheads	Bombers	SSBN	ICBM	Second Strike Capability
China	320	221	6	104	**yes**
France	290		4		no
India	156		1		no
Russian Federation	6375	137	11	336	**yes**
United Kingdom	225		4		no
United States	5800	157	14	400	**yes**

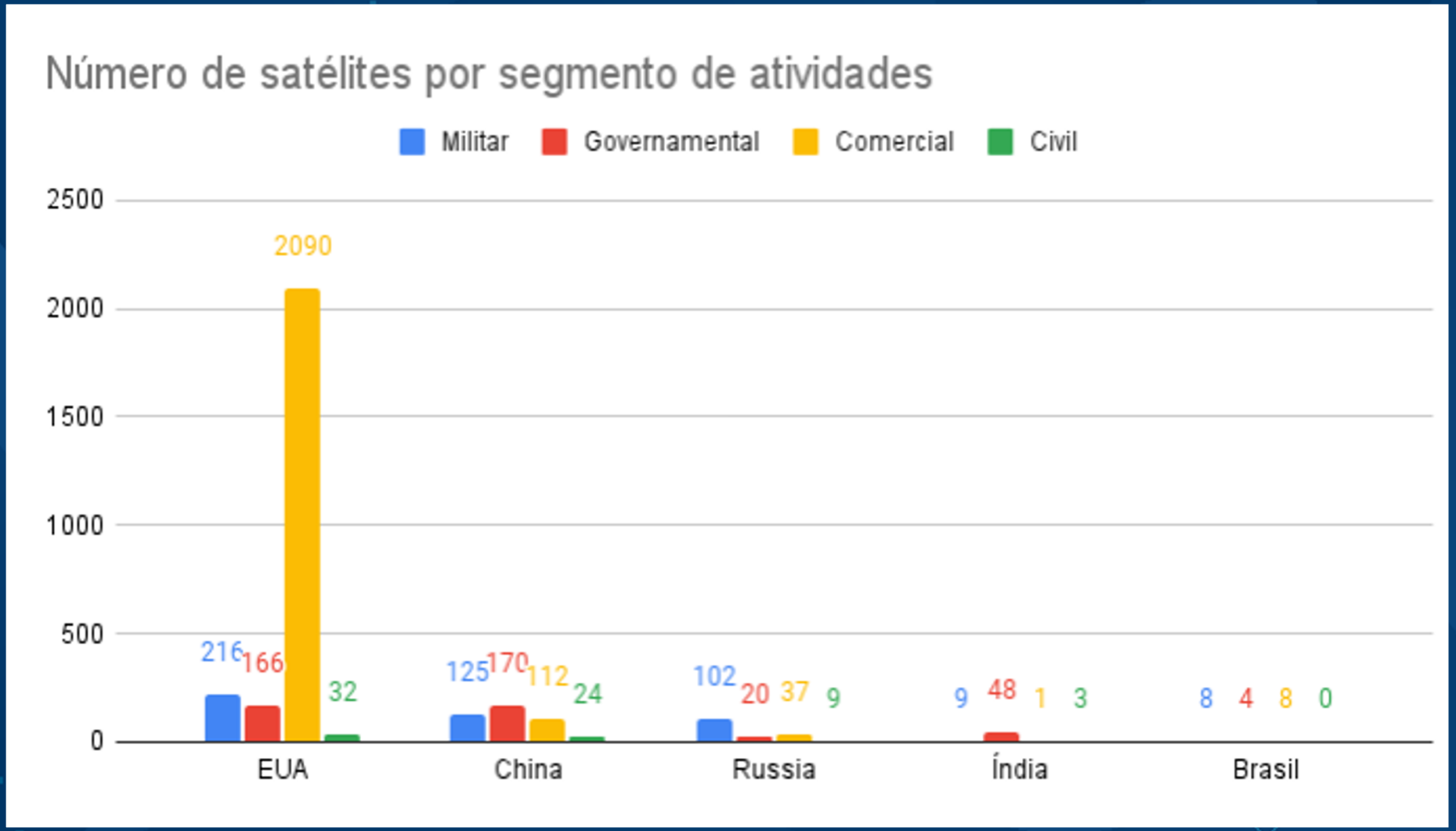
Space Capabilities

Space Command: a country's capacity to ensure the use of its outer space assets in the face of an opponent's attempt to interfere (Klein, 2006)

Active Satellites

- **USA: 74%**
- **China: 13%**
- **Russia: 5%**

Source: UCS 2021

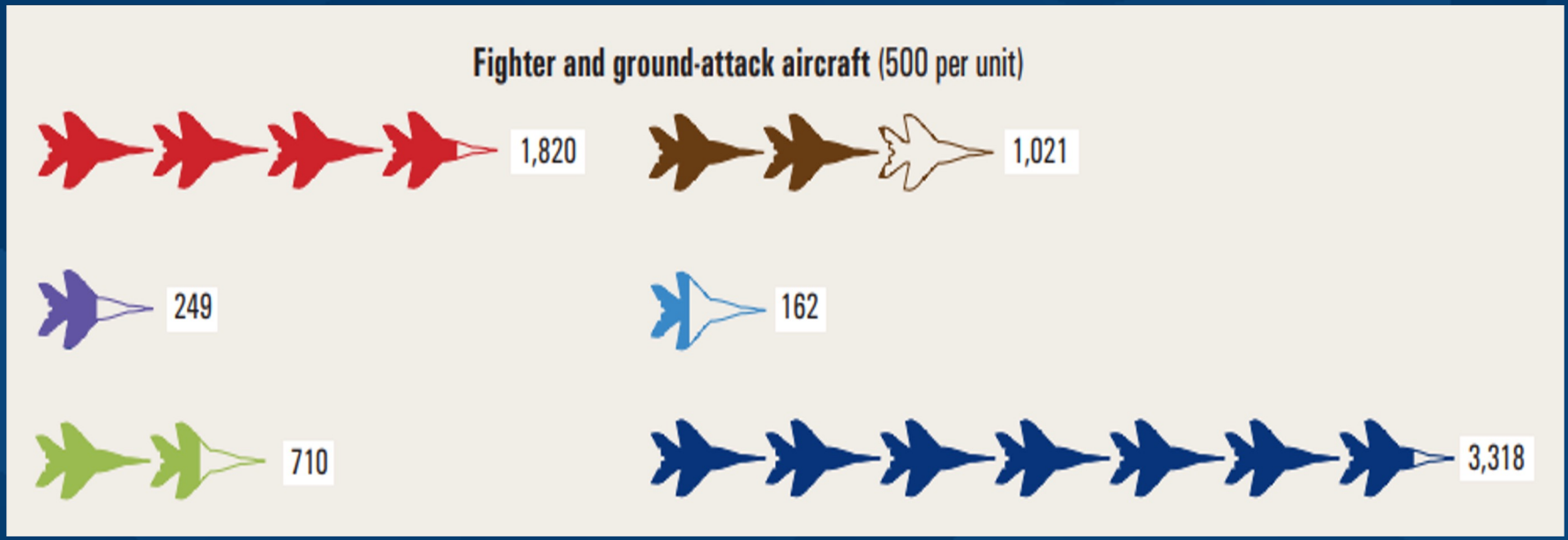


Data source: UCS (2021) and Geospatial World (2021)

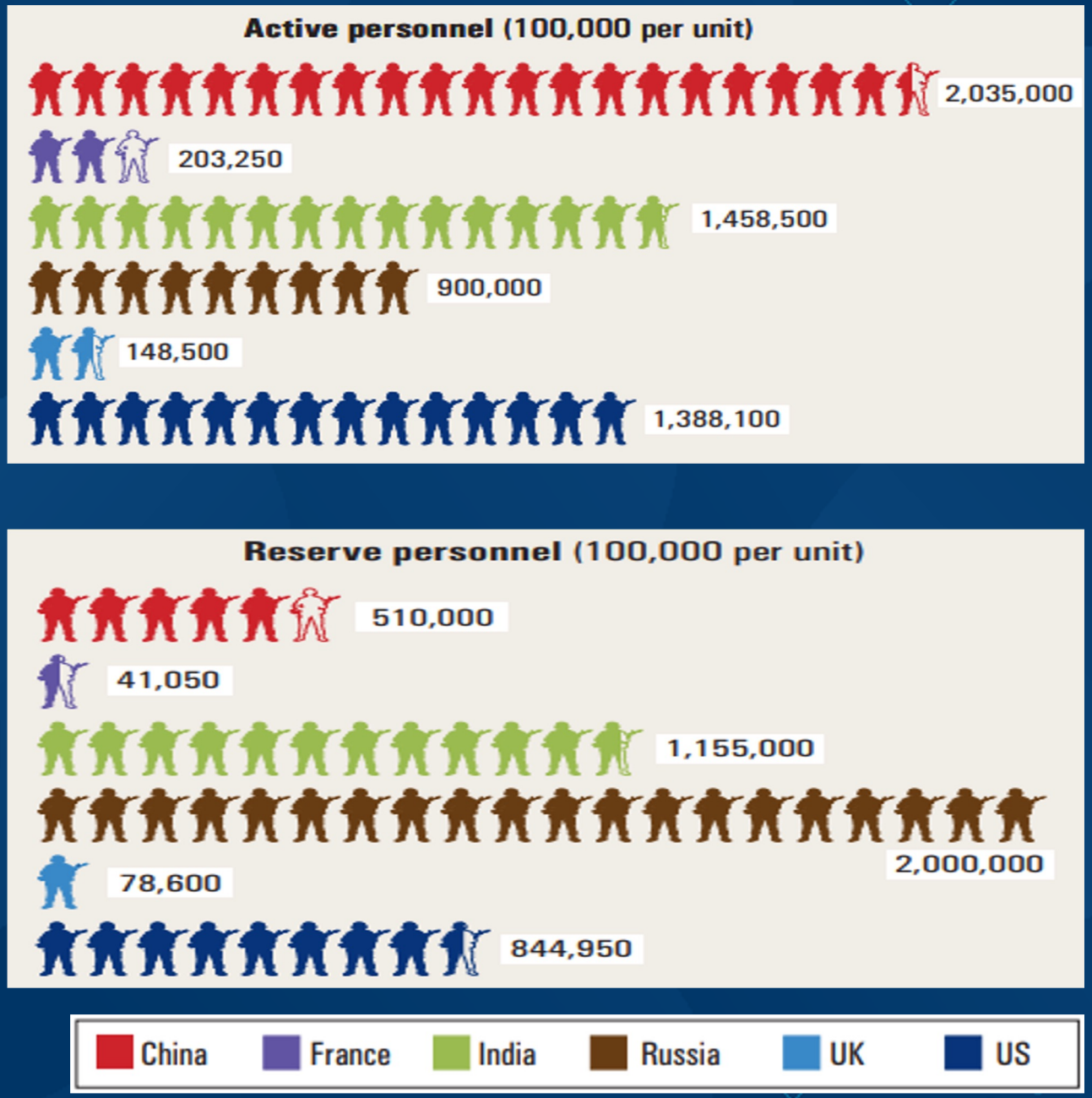
Source: Cepik et al, 2015

Conventional Capabilities

Inexpugnability: possession and mode of employment of conventional capacities that preclude the support of invasion and territorial conquest by any other state in the international system.



Source: The Military Balance 2021



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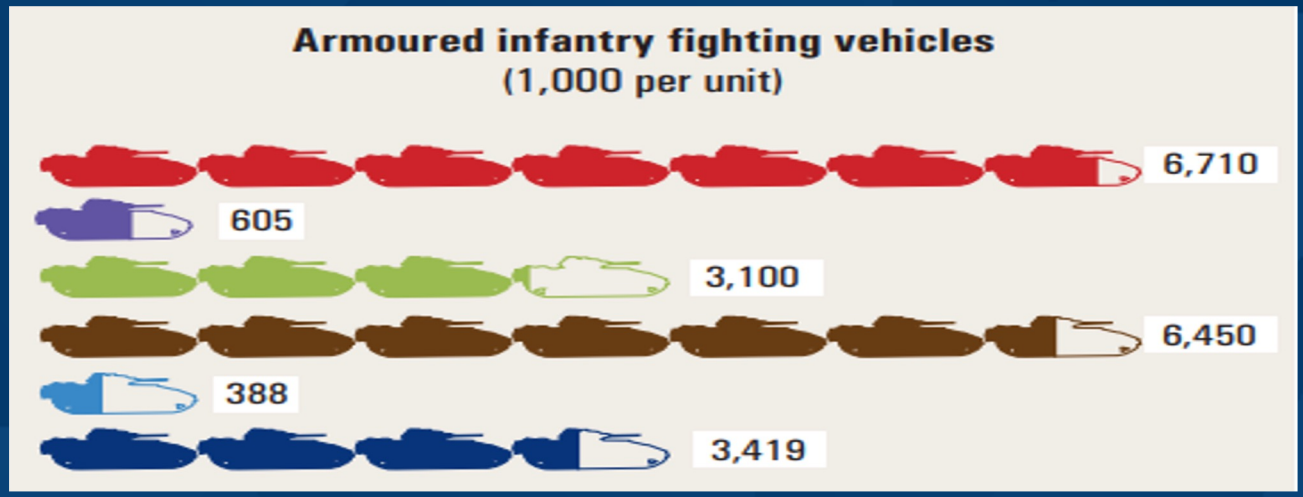
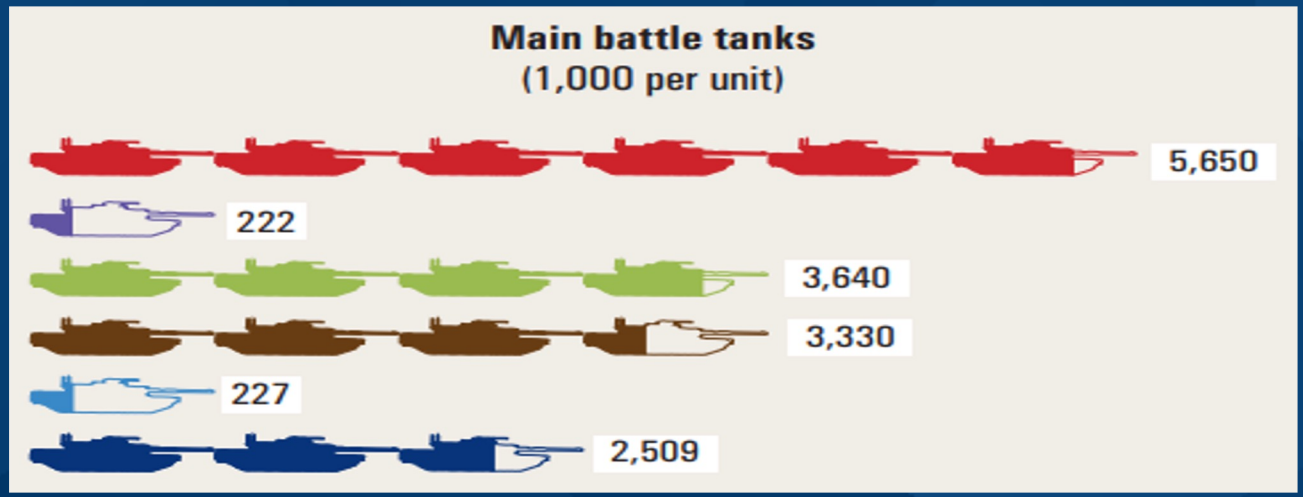
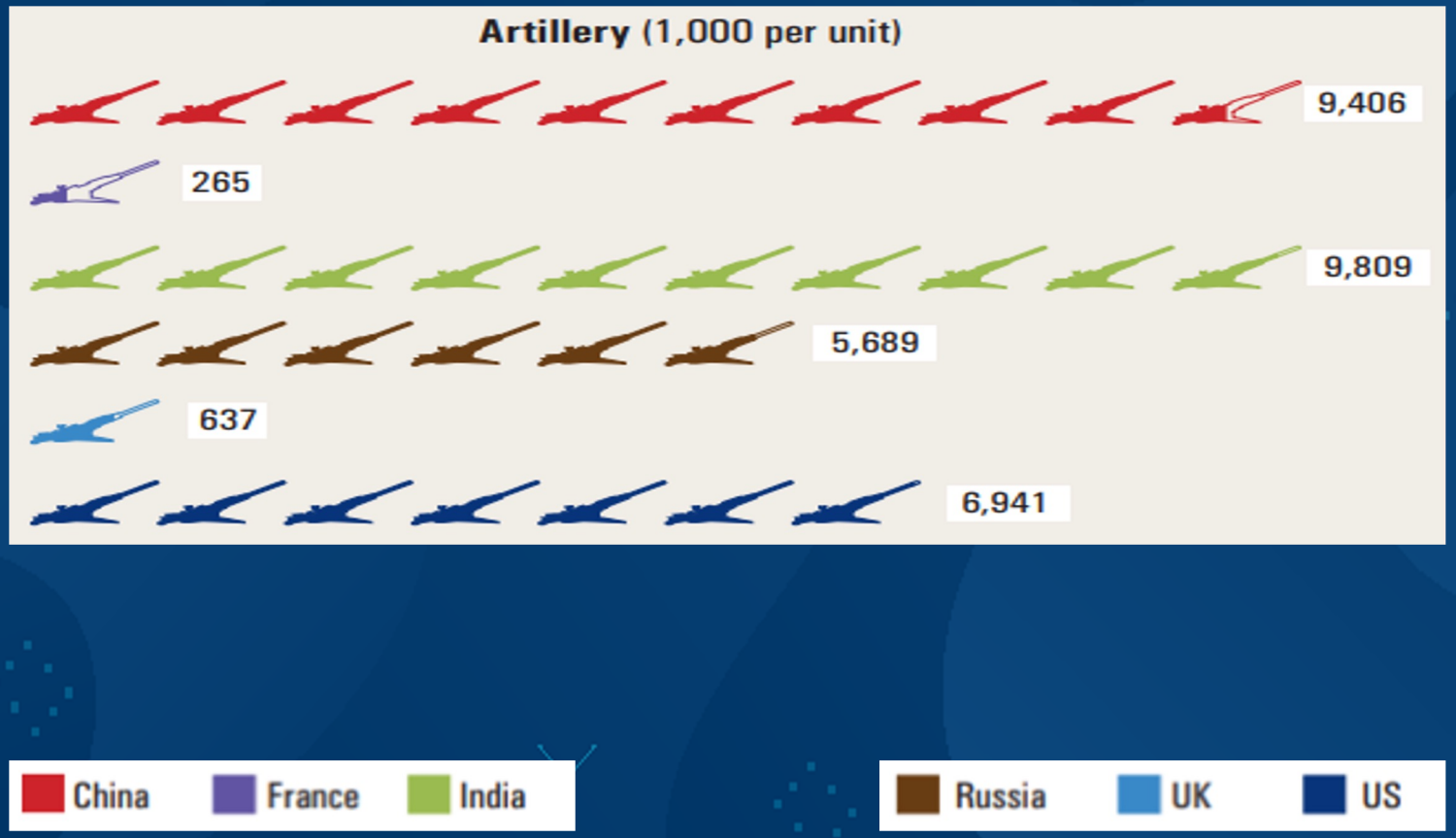


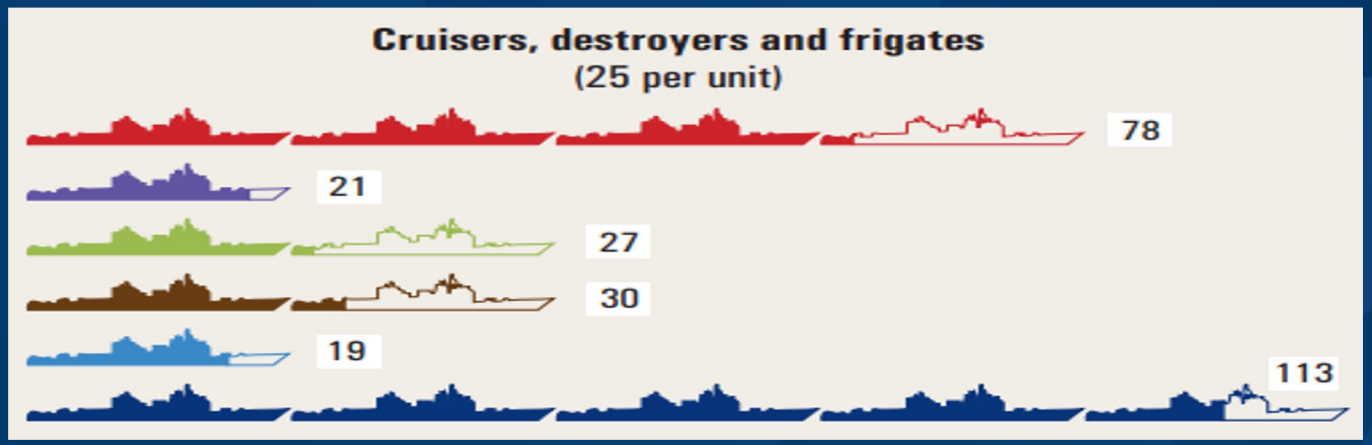


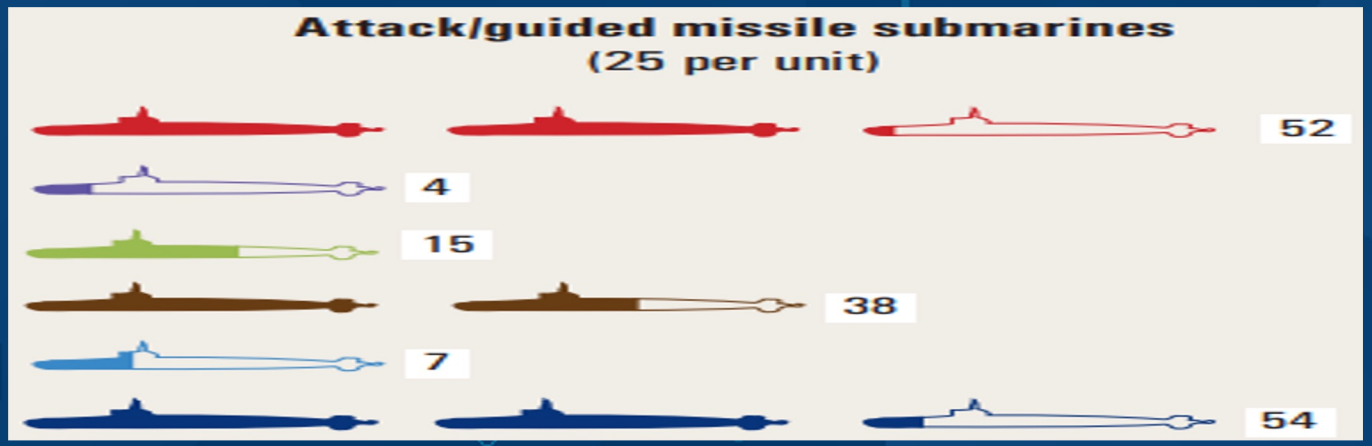
China France India Russia UK US

Source: The Military Balance 2021



Source: The Military Balance 2021





Source: The Military Balance 2021

Coda

The unbalanced tripolarity between a globally dominant power that behaves in a revisionist way in the system (primacy?) and two great powers (a rising one and a declining). Will India consolidate its status as a great power?

The risk of central war and/or high-intensity local wars involving the great powers is the central parameter for thinking about the international security in the coming decades.

4

INTERACTIONS

International Problems

- Nuclear Deterrence
- Counterterrorism
- Peacekeeping

Why?

Steinbruner (*The Cybernetic Theory of Decision,* 2002):

All experimental evidence in Cognitive Psychology and the adaptive processes in evolution seem to contradict the assumed use of analytic logic in human interactions, including in international security.

However, analytic logic is a better shared belief than faith, so people fall back to it to solve problems and, therefore, it becomes a stable basis for collective behavior.

More important, there are many scenarios in which uncertainty is so radical that counting only on adaptive processes for survival becomes impossible.

In these situations, the most decisive element for evolution is the degree of cooperation reached.

Other things been equal, the level of the cooperation varies according the knowledge actors have about their own standing, as well as about each others'.

Nuclear deterrence between Great Powers, international terrorism and counterterrorism, and multidimensional UN peacekeeping were selected **because they strongly challenge cooperation, presenting higher global risks to collective security in the next decades**.

4.1

NUCLEAR DETERRENCE

Problem

Nuclear deterrence and Mutual Assured Destruction as peaceful *status quo ante*.

End of Anti-Ballistic Missile Treaty (ABM), implementation of National Missile Defense (NMD) and the end of the Intermediate Nuclear Forces Treaty (INF) as revisionist moves.

- After the New START:
  - USA: 54% to 93% of strategic arsenal is mobile
  - RUSSIA: 60% of strategic arsenal based in air and sea
  - CHINA: 44 missiles (92 warheads) to hit USA
- Who would start a nuclear war with the USA?

Intelligence Issues

- Since Cold War: how to find ICBMs/SLBMs/ALBMs ?
- Lieber; Press (2006): Nuclear Primacy is the goal
- Li Bin (2006): conceal and decoy to assure survival
- Long; Green (2014): RQ-170/UGS/TTL/SATS got it
- NMD to succeed requires SEAD and NIA/D3
- Lieber; Press (2013): strategic primacy (nuke/conv.)
- Biddle; Oelrich (2016): force projection to what?

Neglect SIA has costs

- Etzioni (2013): dissociation of political and military operation formulations; lack of accountability
- Christensen (2012): potential for nuclear escalation
- Montgomery (2017): China's aggression in Asia?
- Triangular relations between United States, China, and Russia impact the whole world.
- Risks of being entangled in a conflict without serious preparation.

4.2

COUNTERTERRORISM

Problem

Terrorism features preeminently in all lists of contemporary non-traditional threats, even along with different phenomena, like organized crime (“predator x parasite”) and corruption.

From 350 suicide attacks (1980-2003) to 1,833 (2004-2009), but 92% anti-American.

37,752 terrorist attacks in 1986-2000, against 72,434 in 2001-2015.

In 2015, there were 29,376 terrorism-caused deaths (10% lower than in 2014); however, around 70% of all of them were in five specific countries (Iraq, Nigeria, Afghanistan, Pakistan and Syria).

Source: Pape; Feldman (2010); **Start (2016)**

Intelligence Issues

- Focus is to anticipate attacks and defeat groups.
- Is there a regional and target type concentration in this increased occurrence of terrorist attacks?
- Are there any causal relations between the military interventions and the increasing in terrorist attacks?

- Was "GWAT" a truly global campaign?
- Europol (2016): 1,077 arrests charged of terrorism
- How wide is the gap between threat perception and actual risk due to the nature of terrorist use of force?

Neglect SIA has costs

- Keep fighting the next group endless.
- Either overspending or underestimating the threats.
- Further imbalance freedom and security in democratic countries.

- End up with more authoritarian regimes worldwide.
- Normalize terrorism as a component of an ill advised “civilization clash”.
- Elect people who believe that terrorism results from alternative facts: “Muslims hate western way of life”.

- “Terrorism” anywhere in the document: **1,130,000** results in 0.07 seconds (goo.gl/GZawC4).
- “Terrorism / “Strategic” / “Intelligence” / “Analysis” together, anywhere in the document: **258,000** results in 0.11 seconds (goo.gl/zjoOJc).
- “Terrorism” in the title: 93,800 results in 0.07 seconds (goo.gl/TZFQx5).
- “Terrorism / “Intelligence” / Analysis” in the title: **35** results in 0.06 seconds (goo.gl/NbeXid).
- When “Strategic” is added to the three words in the title: **Zero** results (goo.gl/5a4yuW).

Source: Google Scholar (Feb 20 2017)

4.3

PEACEKEEPING

Problem

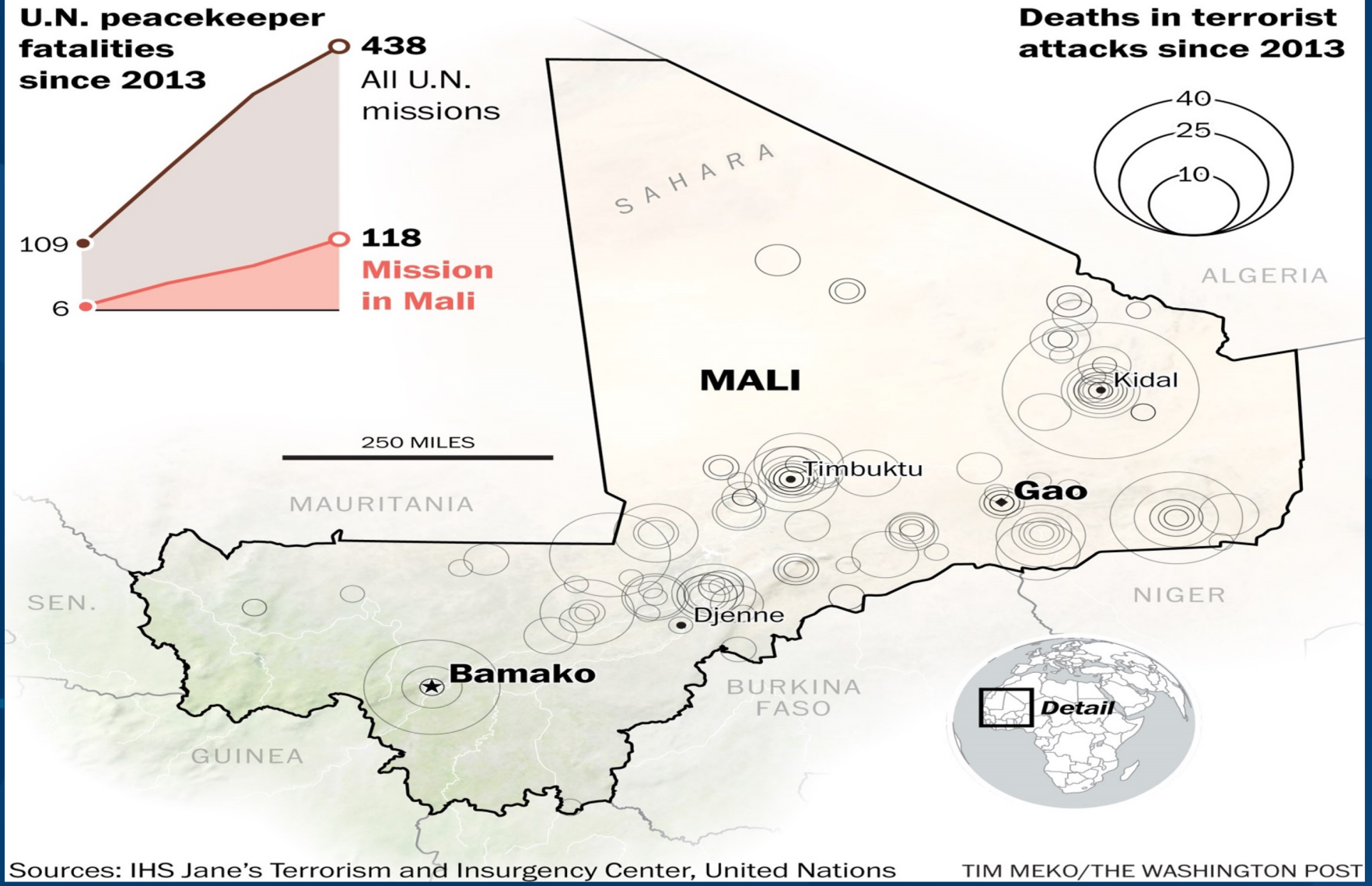
How to avoid new failures like Somalia (UNOSOM I and II, 1992-1995), Rwanda (UNAMIR, 1993-1994), and Bosnia (UNPROFOR, 1992-1995).

After the Brahimi Report (2000) reforms were introduced, but the nature of PKO as coalition war remains problematic.

Following MINUSTAH, MONUSCO, and MINUSMA, multidimensional missions with robust mandates (offensive combat requirements) are the new normal?

A dangerous mission

Since 2013, 118 peacekeepers have been killed in Mali, making it the deadliest ever U.N. mission. The country is plagued by several groups linked to al-Qaeda.



Sources: IHS Jane's Terrorism and Insurgency Center, United Nations

TIM MEKO/THE WASHINGTON POST

Intelligence Issues

- Doctrine and organizational changes to deal with new operational realities: Joint Mission Analysis Centres (JMACs) at the operational level.
- Research and Liaison Unit (RLU) of the Situation Centre (SITCEN- DPKO/DSF), and the UN Operations and Crisis Centre (UNOCC), in New York.
- Limited capabilities due to lack of political consensus.

Neglect SIA has costs

Due to demographic, climate, and energy transitions, operational scale will probably increase to deal with hundreds of thousands of blue helmets and tens of millions of civilians.

The new UN Secretary-General António Guterres has called for a boost in preventive diplomacy and mediation efforts, as well as for a strategy to address root causes of such conflicts in the world (United Nations, 2017).

How?

Coda

Pessimistic Scenario

increased polarization between the major powers and adopting more aggressive strategies eliminates political mediation. Increased risk of nuclear escalation from a highly intense local war, leading to total war, secular economic stagnation, and ecological collapse.

Intermediate Scenario

Additional polarization, endemic state-of-war to dispute legitimacy (moral and legal) and limited goals. Instability contained to the Middle East and specific countries in the periphery.

Optimistic scenario

Peaceful hegemonic restoration, with strengthening of multilateralism, division of spheres of influence with shared power between great powers and regional powers. Armed forces with deterrent function and stabilization capability.

5

CONCLUSIONS

- Strategic Intelligence Analysis matters
- Security: context, structure, interactions
- From nukes to terrorism and peacekeeping
- Education and Cooperation to strength SIA
- Analytic quality and hypotheses tests
- Start with public documents and validation
- Oversight and control are crucial

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THANK YOU
GRACIAS
OBRIGADO

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