The importance of Strategic Intelligence for Capability-Based Planning

Date of submission: February 3, 2026 **Date of approval:** March 25, 2026

Fernanda das Graças Corrêa[*]
Newton Lopes Júnior[**]

Executive Summary

This policy paper examines the central role of strategic intelligence in Capability-Based Planning (CBP), conducted over decision horizons of 12 to 20 years and marked by uncertainty and long-term effects. CBP must therefore address high levels of uncertainty through plausible scenarios, validation of critical assumptions, signal monitoring, and cyclical reviews. Strategic intelligence forms the foundation of this process by bringing together four methodological pillars: (1) portfolios of four to six contrasting prospective scenarios; (2) assessment of capabilities in terms of robustness and sensitivity; (3) structured recording of assumptions with actionable indicators; and (4) review protocols with quarterly and annual milestones. The analysis draws on international parameters of process maturity, selected for their methodological transparency in integrating intelligence and planning, with emphasis on practices from the United Kingdom (United Kingdom, 2023), Canada (DRDC, 2011), the Central Intelligence Agency (CIA, 2009), and the North Atlantic Treaty Organization (NATO, 2010). These references are not treated as prescriptive models, but as evidence of best practices that validate the proposed pillars, such as maintaining an Assumptions Baseline and conducting cyclical scenario reviews, without depending on the institutional architecture that may adopt them in the Brazilian context. Section 1.6 synthesizes five international operational recommendations drawn from these sources. Section 2 adapts these practices to Brazil through automation (RPA, APIs, NLP, and BCMSI) to incorporate international benchmarks into national planning. The document identifies opportunities to incorporate international processes into Brazil's future CBP. Its recommendations promote standardization, transparency, and governance under uncertainty, strengthening capability choices. The structure follows problem analysis in Section 1, international practices in Section 1.6, and national recommendations in Section 2.

Keywords: strategic intelligence; Capability-Based Planning; prospective scenarios; operational robustness; cyclical review.

[*] PhD in Political Science from Fluminense Federal University (UFF). General Coordinator, Department of Science, Technology, and Innovation (DECTI), Secretariat of Defense Products (SEPROD), Ministry of Defense.

[**] PhD in Naval Sciences from the Naval War College. Coordinator at the Capability-Based Planning Advisory Office, Ministry of Defense.

1 ANALYSIS OF THE PROBLEM AND ITS IMPLICATIONS FOR DEFENSE

1.1 INTRODUCTION

Unlike state intelligence produced by ABIN, which is generally aimed at addressing immediate crises, strategic intelligence in Capability-Based Planning (CBP) supports long-term force planning over 12-to-20-year horizons. It is a complementary function that processes operational and technological data to guide investment in military capabilities, without overlapping legal competencies.

CBP shifts the focus of defense planning away from defined threats and toward the question of what the force must be able to do in different plausible contexts, under constraints of time, budget, and technology. This shift requires a prospective, coherent, and traceable information base, which is precisely the role of strategic intelligence (DRDC, 2011; Carnegie Mellon University. Software Engineering Institute (CMU/SEI), 2024). Adopted in the 1990s to address the ambiguity of the post-Cold War security environment, CBP is often described as the "gold standard" for force development (Davis, 2014).

In UK doctrine, intelligence is treated as a function that enables understanding, anticipates courses of action, and supports decisions at all levels, guided by operational principles that ensure its usefulness for planning and the conduct of operations. As the publication states: "Enable understanding. The intelligence staff present intelligence about the operating environment and audiences, including their intentions, capability and motivation" (United Kingdom, 2023, p. 9).

These principles – timeliness, flexibility, collaboration, continuity, and security – provide Capability-Based Planning with a common taxonomy for comparing options over time, reducing uncertainty, and strengthening the traceability of choices (United Kingdom, 2023, pp. 9–10).

Strategic intelligence in CBP has the potential to convert uncertainty into requirements. Scenario-building monitors variables to construct prospective defense and security scenarios. The definition of capabilities derives from the plausible projection of future environments and from the identification of potential problems and the solutions needed to address them.

The comparison of these factors may reveal gaps in these possible futures, allowing requirements to incorporate solutions that increase their resilience under uncertainty, since scenarios serve as testbeds for assessing the robustness and sensitivity of such solutions.

In Brazil, the focus is on encouraging the formalization of a link between trend analysis and the definition of capability requirements. Integrating automation and recording assumptions increases transparency and the traceability of choices. This approach helps ensure that capability development remains resilient to fluctuations in the global context.

Strategic intelligence does not replace political decisions or planning. Rather, it provides the space of possibilities and the analytical discipline needed for capability choices to be made with method, transparency, and traceability (DRDC, 2011; CMU/SEI, 2024).

Its value in CBP is reflected in four outputs: scenarios that cover relevant variations in the environment; estimates with confidence levels and explicit identification of gaps; indicators that trigger attention and response; and cyclical reviews that update judgments and adjust timelines and targets (United Kingdom, 2023; NATO, 2010).

The main objective of CBP, therefore, is to confront uncertainty rather than disregard it. CBP should focus on identifying adaptive options that provide protection across a broad range of possible futures.

Several references (Center for Security Studies, CSS, 2022; CIA, 2009; EUA, 2005; NATO, 2015; United Kingdom, 2023) identify a common problem in intelligence activity worldwide: the availability of qualified personnel, especially given the analytical complexity and volume of data involved.

For contexts with a limited workforce, the adoption of lightweight automation and analysis architecture is recommended. This architecture includes the input of data from external sources through Robotic Process Automation (RPA) and Application Programming Interfaces (APIs), the use of Natural Language Processing (NLP) to extract signals, and the maintenance of a structured repository of assumptions and indicators (BCM-SI).

In this repository, each critical assumption and its associated indicators are recorded with complete metadata and placed under version control, including change history, responsible parties, justifications, confidence levels, and “if/then” triggers that activate responses when signals exceed defined thresholds.

This structure supports scenarios, estimates, and cyclical reviews with cadence and traceability, without requiring a proportional increase in personnel. It also allows intelligence specialists to devote more time to analytical production.

These parameters reflect considerable process maturity, with methodological transparency in the integration of intelligence and planning. They also point to best practices that validate the data collected and the analyses produced, such as maintaining an Assumptions Baseline and conducting cyclical scenario reviews.

The international references examined in this essay converge around three common practices: doctrines, which define the intelligence function and its principles; CBP guides, which recommend multiple prospective scenarios, common taxonomies, and collaborative processes; and strategic trends programs – editorial and research programs in foresight and strategic anticipation that produce periodic reports with scenarios, drivers of change, uncertainties, and shocks over 12-to-20-year horizons, in order to guide policies, strategies, and capability development (EUA, 2009; EUA, 2013; United Kingdom, 2023; DRDC, 2011).

The United Kingdom's Global Strategic Trends program is a leading example, offering a framework for building scenarios and indicators through 2040/2045 and supporting greater consistency in estimates and debate on future capabilities (United Kingdom, 2010; United Kingdom, 2018).

CBP was designed to operate under high uncertainty, avoiding dependence on deterministic forecasts and preventing planning from becoming locked into a single future. Strategic intelligence provides a portfolio of plausible futures, competing hypotheses, and confidence levels, enabling capability alternatives to be compared by performance across scenarios (DRDC, 2011; United Kingdom, 2018).

Scenario-based analysis is widely recognized as a key element of contemporary analytical support and an integral part of robust capability-based defense planning. By monitoring signals and validating or refuting assumptions through structured techniques, intelligence turns the unknown into manageable hypotheses, making it possible to learn and adjust course over multi-year cycles (CIA, 2009; Air University, 2021; United Kingdom, 2023).

1.2 INTERNATIONAL REFERENCES FOR COMPARISON

1.2.1 Scenario Space

Building a scenario space means defining a concise set of prospective scenarios – for example, four to six – that combine drivers of change[1] and critical uncertainties[2] across political, technological, economic, social, and physical-operational dimensions, including

[1] A trend with a clear direction and reasonable stability over time, such as demographic aging, urbanization, or the spread of automation. It generally forms the background of scenarios, with lower relative variance and greater structural predictability.

[2] A variable with plausible divergent outcomes and high decision-making impact, such as the pace of adoption of a disruptive technology, geopolitical alignments, or uncertain regulatory frameworks. It is often used as an axis for scenario construction, as it opens up contrasting alternative futures.

low-probability, high-impact shocks. Strategic trends programs provide a basis for methodological consistency and transparency (Neill; Hinkle; Morgan, 2016; United Kingdom, 2018).

International practice suggests that a small number of high-quality scenarios is more useful and credible for planning than a large number of low-quality scenarios. Scenarios should be "pen pictures of plausible futures" and should introduce discontinuity into the strategic space. The objective is not to "predict" the future, but to ensure that decisions explicitly confront contrasting possibilities (United Kingdom, 2010; EUA, 2021).

Workflow tools and dashboards make it possible to keep four to six scenarios active, with drivers and parametric ranges updated through automated ingestion and thematic classification. This reduces manual effort and supports consistency across planning cycles (NATO, 2010; NATO, 2015; United Kingdom, 2023).

1.2.2 Robustness and Sensitivity

Assessing capabilities for robustness means determining whether an option performs adequately across most scenarios and does not fail catastrophically in any of them. Parametric sweep tools and simple modeling can help compare alternatives and expose "fracture lines", that is, the parameters to which an option is sensitive (Abbass *et al*., 2009; Hallett *et al.,* 2018).

Computational Scenario-Based Planning (CSP) uses evolutionary multi-objective optimization to generate large sets of capability options and identify solutions that minimize total cost and variance, with the aim of building robust portfolios (Abbass *et al.,* 2009).

This approach supports balanced portfolios, with realistic safeguards against disruptions and critical dependencies (CMU/SEI, 2024).

Dashboards with simple parametric sweeps – interface controls for critical parameters – and assisted completion of the Robustness Matrix can speed up comparisons among alternatives, highlighting sensitivity and safeguards while saving analytical time.

1.2.3 Assumptions and Indicators

Implicit assumptions are sources of risk. A formal record containing justifications, confidence levels, and observable signals – including at least one indicator that contradicts the assumption – reduces bias and facilitates evidence-based updates (CIA, 2009).

The Key Assumptions Check is a Structured Analytic Technique (SAT) used to make the analytical argument more transparent, expose flawed logic, and identify developments that

would lead to abandoning the assumption (CIA, 2009). Another relevant technique is Analysis of Competing Hypotheses (ACH), which focuses on refuting alternative hypotheses and mitigating confirmation bias.

"If/then" rules link signals to responses, creating a benchmark that triggers adjustments in posture, collection priorities, or target reviews (CIA, 2009; United Kingdom, 2023).

An Assumptions/Indicators Baseline and Change Management mechanism (BCM-SI), aligned with baseline, history-tracking, and rollback practices at review milestones, operationalizes continuous assumption checking through automated "if/then" rules and threshold alerts. This enables low-cost monitoring, mitigates bias, and triggers timely responses.

1.2.4 Cyclical Reviews (Milestones)

Review protocols with quarterly and annual milestones specify when and how estimates will be updated, which items must be reviewed – drivers of change, parameter ranges, critical assumptions, sensitivity exercises, and lessons learned – and which outputs are required, such as errata, target adjustments, and schedule updates (NATO, 2010).

The need to revisit forecasts periodically is essential for dealing with the indeterminacy of the future (Swedish Defence Research Agency – FOI, 2010). The cyclical review protocol must be synchronized with decision-making and budget execution cycles (NATO, 2010; CMU/SEI, 2024). CBP should be understood as an evolutionary and iterative process that provides increasingly detailed inputs for implementing strategic guidance.

Extraordinary triggers – for example, a change in sectoral policy or a technological disruption – may bring forward out-of-cycle reviews (NATO, 2010; FOI, 2010).

Orchestration through scheduled milestones and extraordinary triggers, integrated with signal dashboards and critical assumption checks, supports quarterly and annual reviews while preserving timeliness and traceability, even with lean teams.

1.3 DOCTRINAL PRINCIPLES THAT SUPPORT CBP

In the United Kingdom, the operational principles of the intelligence function – delivering at the point of decision, adjusting focus and means, cooperating to build shared understanding, accumulating expertise, and protecting sources and methods – improve the quality of CBP by imposing governance and data requirements, including standardized

formats, common taxonomies, data curation, and clear roles (United Kingdom, 2023).

A joint taxonomy should be adopted to support collaborative analysis and synthesis and to ensure terminological consistency. These are core tasks for intelligence specialists, and the absence of a common CBP language has proved to be a challenge within the defense community.

In alliances, interoperability and controlled sharing are essential to ensure coherence among scenarios, estimates, and decisions, as well as to support joint learning (DRDC, 2011; NATO, 2010).

1.4 TRACEABILITY AND GOVERNANCE: THE "LINE OF EVIDENCE"

A useful practice is to maintain a "line of evidence" linking each capability requirement to the scenario excerpts, estimates, and indicators that support it. Confidence levels and risk assessments should be documented throughout the chain, creating an auditable basis for review and accountability (DRDC, 2011; CMU/SEI, 2024).

Transparency and accessibility in capability analysis outputs are essential requirements. Documenting assumptions and making the underlying logic explicit are necessary to ensure credibility and traceability in the process.

This transparency is decisive over 12-to-20-year horizons, where the value of an estimate depends on the architecture of assumptions and signals that support it – and that can be reassessed over time (United Kingdom, 2018; EUA, 2021).

Adopting an evidence graph linking source documents, assumptions, indicators, scenarios, and recommendations enables audits and accountability, while also allowing analyses to be reused across cycles and portfolios.

1.5 PRACTICAL CHALLENGES AND HOW TO MITIGATE THEM

Cognitive and organizational biases can lead to "comfortable" scenarios and resistance to updating assumptions. Structured techniques and formal records help mitigate this risk (CIA, 2009).

Biases such as cognitive consistency (relating new events to already familiar mental models) – and Satisficing (accepting solutions that are "good enough" rather than exploring deeper possibilities) can compromise robust analysis.

Automating data collection and classification reduces exposure to selection bias and reinforces the discipline of updating assumptions. At the same time, peer-review workflows and change records improve epistemic quality under personnel constraints.

Synchronization challenges between analysis and decision-making require cadences and triggers that align reviews with governance and budget execution cycles (NATO, 2010; CMU/SEI, 2024).

The pace of innovation and technological uncertainty call for safeguards (for example, modular architectures and open integrations) to avoid lock-in to technologies vulnerable to obsolescence (CMU/SEI, 2024; FOI, 2010).

According to Defence Research and Development Canada (DRDC, 2011, pp. 9–10), implementing CBP involves significant organizational challenges. These include a shortage of personnel to sustain planning and analysis demands while also supporting ongoing operations. This limitation was notable even in the defense sector and tends to be even more acute in public security, which has historically had a smaller proportion of personnel dedicated to planning. It therefore requires the creation of an "organizational reserve", prudent management of expectations, and prioritization of support processes and tools to mitigate the deficit in available analytical capacity, which is a central task of the strategic intelligence professional.

The Institute for Defense Analyses (Neill; Hinkle; Morgan, 2016, p. 28), in turn, stresses that scenario development is "time and labor intensive." In the U.S. case, the time required to develop complete scenarios creates constant tension with the need to maintain a sufficient repository. To mitigate this problem, the document emphasizes the importance of keeping the scenario inventory "as small as possible to ensure that they are kept up to date" (Neill; Hinkle; Morgan, 2016, p. 24). Quality should therefore take precedence over quantity. The same source also notes that, in the case of South Korea, an excessive number of scenarios makes the resources required for analysis substantial and beyond the capabilities of any government (Neill; Hinkle; Morgan, 2016, p. 31).

1.6 INTERNATIONAL OPERATIONAL RECOMMENDATIONS

International experience suggests a set of recommendations, among which the following stand out:

1) Build a portfolio of four to six contrasting scenarios, with documented drivers of change and parametric ranges, anchored in recognized strategic trends programs (United Kingdom, 2018; EUA, 2021).
2) Assess options for robustness and sensitivity across scenarios, using parametric sweeps to reveal vulnerabilities and guide safeguards (Abbass *et al.,* 2009; Hallett *et al.,* 2018).
3) Maintain a formal and structured record of critical assumptions, including confirmatory and contradictory indicators, and trigger "if/then" rules when signals exceed defined thresholds (CIA, 2009).
4) Operate a review protocol with quarterly and annual milestones, connected to portfolio decisions and to lessons from operations and exercises (NATO, 2010; CMU/SEI, 2024).
5) Implement a lightweight monitoring architecture with automated data ingestion, NLP for signal extraction, and a BCM-SI, integrating scenario and robustness dashboards into the Review Protocol in order to maintain cadence with reduced teams (Abbass *et al.,* 2009; United Kingdom, 2023).

These international practices also inform the recommendations adapted to the Brazilian context in Section 2, considering the specific characteristics of the workforce, budget cycles, and national defense governance.

2. RECOMENDATIONS

Based on the best practices observed, and with a view to contributing to Brazilian strategic intelligence by helping design a more robust, adaptive process aligned with national strategic objectives, the following measures are suggested:

• **Lean portfolio of four to six contrasting scenarios, anchored in strategic trends programs** (United Kingdom, 2018; EUA, 2021): This mitigates high uncertainty (Section 1) and the challenges associated with time- and labor-intensive work (Section 1.5, IDA/DRDC), while keeping scenarios active through an automated workflow as a common basis for capability decisions over 12- to 20-year horizons.

• **Assessment of options for robustness and sensitivity through parametric sweeps and modular matrices** (Abbass *et al*., 2009; Hallett *et al*., 2018): This exposes vulnerabilities and guides safeguards (Section 1.2.2), supporting balanced portfolios against technological

and economic disruptions, with dashboards that speed up comparisons without increasing personnel and while prioritizing analysis by the intelligence specialist.

• **Formal record of assumptions, with confirmatory and contradictory indicators and "if/then" trigger rules** (CIA, 2009; United Kingdom, 2023): This reduces cognitive bias and facilitates evidence-based updates (Sections 1.2.3 and 1.5), operationalizing BCMSI for continuous verification and timely responses in scenarios where the workforce is reduced.

• **Quarterly and annual cyclical review protocols, with extraordinary triggers synchronized with budget cycles** (NATO, 2010; CMU/SEI, 2024): This ensures the refinement of CBP under future indeterminacy (Sections 1.2.4 and 1.4), integrating lessons from operations and adjusting targets and schedules through calendar-based orchestration to support accountability and traceability.

• **Lightweight monitoring architecture with automation (RPA/APIs/NLP) and integration of dashboards and an evidence graph** (DRDC, 2011; CMU/SEI, 2024): This addresses personnel shortages and enables analysis-decision synchronization (Section 1.5), bringing scenarios, robustness assessment, and reviews together in a sustainable platform, with governance through lines of evidence for audits and analytical reuse.

REFERENCES

ABBASS, H. A. *et al*. **Computational scenario-based capability planning**. Canberra: University of New South Wales at Australian Defence Force Academy, 2009. Disponível em: https://arxiv.org/pdf/0907.0520.pdf. Acesso em: 1 out. 2025.

AIR UNIVERSITY. **Scenario planning methodology for future conflict**. Maxwell Air Force Base, AL: Air University Press, 2021. Disponível em: https://www.airuniversity.af.edu/JIPA/Display/Article/2527810/scenario-planning-methodology-for-future-conflict. Acesso em: 1 out. 2025.

CENTRAL INTELLIGENCE AGENCY. **A tradecraft primer: structured analytic techniques for improving intelligence analysis**. Washington, DC: CIA, 2009. Disponível em: https://www.cia.gov/resources/csi/static/Tradecraft-Primer-apr09.pdf. Acesso em: 1 out. 2025.

CMU/SEI. CARNEGIE MELLON UNIVERSITY. Software Engineering Institute. **Navigating capability-based planning: the benefits, challenges, and implementation**. Pittsburgh: CMU, 2024. Disponível em: https://www.sei.cmu.edu/documents/5837/Navigating-Capability-Based-Planning-The-Benefits-Challenges-And-Implementatio-WuVf5RG.pdf. Acesso em: 1 out. 2025.

CSS. CENTER FOR SECURITY STUDIES. **Understanding capability-based planning**. Zurich: Center for Security Studies, 2022. Disponível em: https://css.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/pdfs/CSSAnalyse298-EN.pdf. Acesso em: 1 out. 2025.

DEFENCE RESEARCH AND DEVELOPMENT CANADA. **Implementing capability based planning within the public safety and security sector**. Ottawa: DRDC, 2011. Disponível em: https://publications.gc.ca/collections/collection_2016/rddc-drdc/D68-6-26-2011-eng.pdf. Acesso em: 1 out. 2025.

ESTADOS UNIDOS (EUA). **Naval analytical capabilities: improving capabilities-based planning**. Washington, DC: National Academies Press, 2005. 102 p. DOI: 10.17226/11455.

ESTADOS UNIDOS (EUA). U.S. Joint Chiefs of Staff. **Joint intelligence preparation of the operational environment** (JP 2-01.3). Washington, DC: Department of Defense, 2009. Disponível em: https://www.bits.de/NRANEU/others/jp-doctrine/jp2_01_3%2809%29.pdf. Acesso em: 1 out. 2025.

ESTADOS UNIDOS (EUA). U.S. Joint Chiefs of Staff. **Joint intelligence** (JP 2-0). Washington, DC: Department of Defense, 2013. Disponível em: https://www.benning.army.mil/infantry/doctrinesupplement/atp3-21.8/PDFs/jp2_0.pdf. Acesso em: 1 out. 2025.

ESTADOS UNIDOS (EUA). Office of the Director of National Intelligence. **Annual threat assessment of the U.S. intelligence community**. Washington, DC: ODNI, 2021. Disponível em: https://www.intelligence.gov/assets/documents/archive/ATA-2021-Unclassified-Report.pdf. Acesso em: 1 out. 2025.

FOI. SWEDISH DEFENCE RESEARCH AGENCY. **Simulation-based defense planning**. Stockholm: FOI, 2010. Disponível em: https://www.foi.se/download/18.7fd35d7f166c56ebe0b100701542623792432/Simulation-based-defense-planning-FOI-S--4829--SE.pdf. Acesso em: 1 out. 2025.

HALLETT, S. *et al.* **The role of scenarios in model-based management of capability programs**. Disponível em: https://shoalgroup.com/wp-content/uploads/2018/05/Hallett-Psalios-Jusaitis-Cook-2018-Role-of-scenarios-in-model-based-management-of-Capability-Programs.pdf. Acesso em: 1 out. 2025.

NORTH ATLANTIC TREATY ORGANIZATION. **Allied administrative publication AAP-20: NATO programme management framework**. Brussels: NATO, 2015. Disponível em: https://tssodyp.ssb.gov.tr/genel/ReferansDokumanlar/AAP-20-2015.pdf. Acesso em: 1 out. 2025.

NORTH ATLANTIC TREATY ORGANIZATION. **Analytic implications of the NATO defence planning process** (NDPP). Washington, DC: Defense Technical Information Center, 2010. Disponível em: https://apps.dtic.mil/sti/tr/pdf/ADA584284.pdf. Acesso em: 1 out. 2025.

NEILL, M.; HINKLE, W. P.; MORGAN, G. **Scenarios: international best practice; an analysis of their use by the United States, United Kingdom, and Republic of Korea**.

Alexandria, VA: Institute for Defense Analyses, 2016. Disponível em: https://www.ida.org/assets/2026/06/18090046/D-5665.pdf. Acesso em: 1 out. 2025.

UNITED KINGDOM. Ministry of Defence. Development, Concepts and Doctrine Centre. **Global strategic trends out to 2040**. 4. ed. Swindon: MOD, 2010. Disponível em: https://assets.publishing.service.gov.uk/media/5a829dbf40f0b6230269bcc9GST4v9Feb10archived.pdf. Acesso em: 1 out. 2025.

UNITED KINGDOM. Ministry of Defence. Development, Concepts and Doctrine Centre. **Global strategic trends out to 2045**. 5. ed. Swindon: MOD, 2018. Disponível em: https://www.ssri-j.com/MediaReport/Document/GlobalStrategicTrendsOutTo2045.pdf. Acesso em: 1 out. 2025.

UNITED KINGDOM. Ministry of Defence. Development, Concepts and Doctrine Centre. **Joint doctrine publication 2-00: intelligence, counterintelligence and security support to joint operations**. 4. ed. Shrivenham: DCDC, 2023. Disponível em: https://assets.publishing.service.gov.uk/media/653a4b0780884d0013f71bb0/JDP200Ed4web.pdf. Acesso em: 1 out. 2025.