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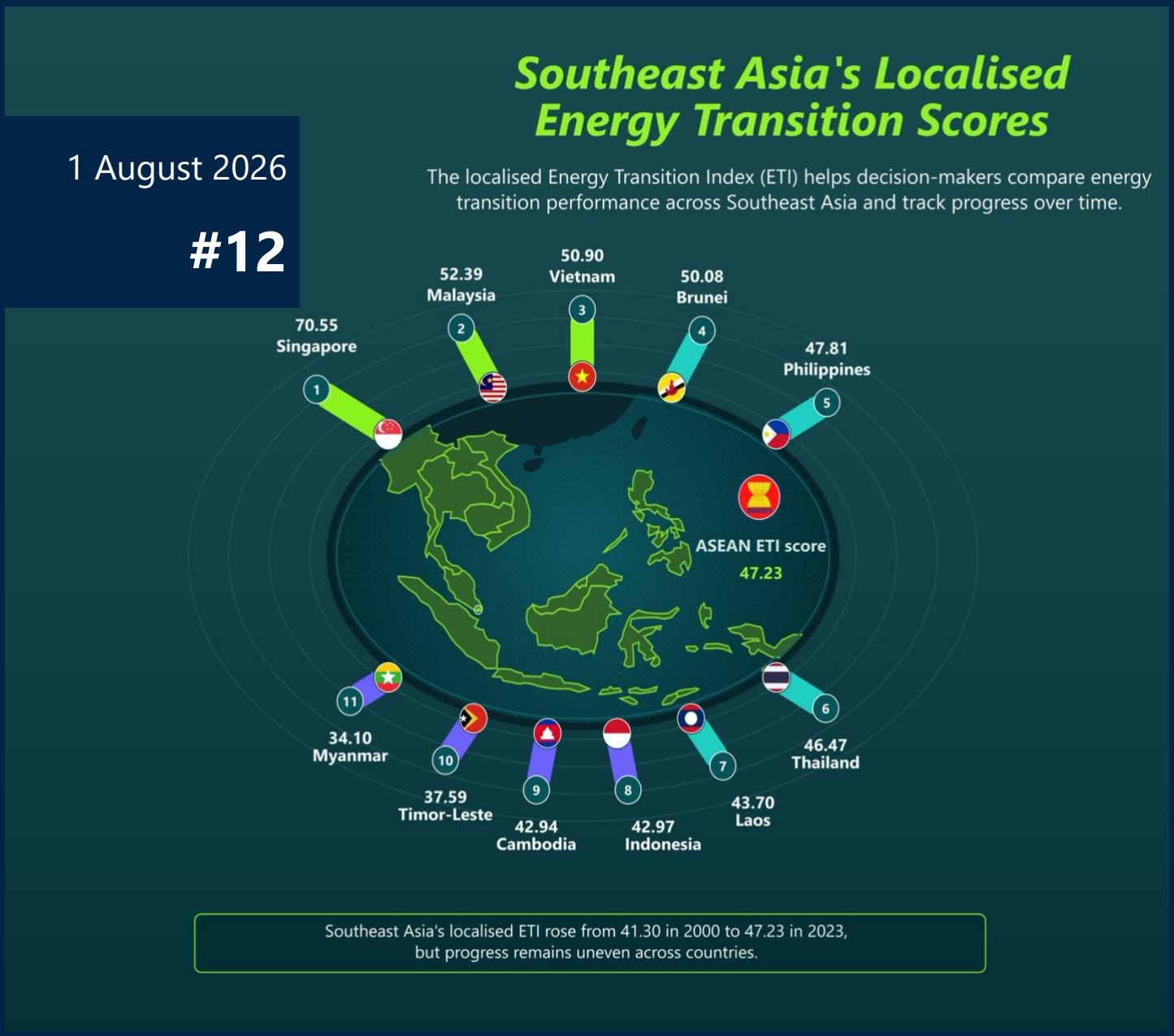

Beyond Performance: Recalibrating Energy Transition Priorities in Southeast Asia

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POLICY BRIEF

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Highlights

1. Better performance does not always mean higher policy priority.
2. The weakest-performing areas are not always the most important.
3. Clean energy and environmental sustainability require the greatest policy attention.
4. Looking at the whole system reveals priorities that scores alone can miss.
5. Governments should combine performance tracking with systems thinking when setting priorities.

Summary

Energy transition indices have become an important tool for guiding policy decisions, investment priorities and international cooperation. However, they do not always identify the areas where policy action can make the greatest difference. Evidence from Southeast Asia shows that the weakest-performing aspects of the energy transition are not necessarily the most important priorities for policymakers. Some areas exert a much greater influence on overall transition outcomes because they shape progress across many other parts of the energy system. This policy brief argues that governments should look beyond performance scores and apply systems thinking when setting priorities, allocating resources and designing policies to accelerate the energy transition.

What's the issue?

There has been increasing reliance on energy transition indices and benchmarking frameworks to determine priorities, allocate resources and evaluate progress. Governments use them to inform national energy strategies, investors use them to assess transition readiness, and international organisations use them to guide technical assistance and financing decisions. As energy transition becomes an increasingly important policy objective, the influence of these frameworks on decision-making continues to grow.

Their popularity stems from a simple premise: what gets measured gets managed. By quantifying progress across different dimensions of the energy transition, benchmarking frameworks help policymakers identify strengths, weaknesses and areas requiring attention[1]. Among the most widely recognised examples is the World Economic Forum's Energy Transition Index (ETI) [2], which evaluates countries across dimensions such as energy security, environmental sustainability and transition readiness.

[1] International Energy Agency. 2025. Tracking SDG 7: The Energy Progress Report 2025. Paris.

[2] World Economic Forum. 2025. Fostering Effective Energy Transition 2025. Geneva.

Yet there is an important limitation that often receives insufficient attention. Most benchmarking frameworks are designed to measure performance rather than importance. They provide valuable insights into whether progress is being made, but they are less effective at identifying which components exert the greatest influence over broader transition outcomes.

This distinction matters because energy transition is fundamentally a systems challenge. Energy access, energy security, clean energy deployment, economic development, innovation, infrastructure and environmental sustainability are deeply interconnected. Progress in one area can reinforce progress elsewhere, creating synergies that accelerate transition outcomes. At the same time, interventions in one area can generate tensions in another, creating trade-offs that complicate policymaking.

As a result, the weakest-performing component is not necessarily the most important bottleneck within the wider transition system. Equally, a component that appears to be performing well may still exert significant influence over broader transition outcomes. A sole focus on performance indicators can therefore create blind spots in policy planning.

Many policy discussions nevertheless continue to assume that poor performance automatically indicates higher priority. Governments often direct attention towards components with the lowest scores, on the assumption that these represent the most urgent challenges. While this approach appears logical, it risks overlooking the structural relationships that shape the effectiveness of the transition as a whole.

The challenge is particularly pronounced in emerging economies. Many global benchmarking frameworks were originally developed using assumptions that reflect the circumstances of advanced economies. Differences in development priorities, institutional capacity, infrastructure maturity, resource endowments and data availability can reduce their relevance when applied directly to regions such as Southeast Asia. Indicators that are meaningful in one context may be less useful in another, while important regional characteristics may remain underrepresented.

To address these limitations, a localised Southeast Asia ETI was developed under the leadership of the Centre for Strategic Energy and Resources (CSER) [3] . The framework retains the overall architecture of the World Economic Forum ETI while incorporating indicators that better reflect regional realities and data availability. However, the more significant contribution is not the adaptation of indicators itself. Rather, it is the introduction of a complementary analytical perspective that examines how different components interact within the broader transition system.

This perspective focuses on structural importance. While development performance measures how well a component is performing, structural importance measures how influential that component is in shaping outcomes

[3] Lei, Yifei, Victor Nian, Sebastian Sewerin, and Yizhong Huan. 2026. "Tracking Southeast Asian's Progress and Priorities in the Energy Transition – A Regional Energy Transition Index and Analysis Framework." Applied Energy 420 (June):128088.

elsewhere in the energy transition system. Components with high structural importance can generate significant synergies or trade-offs that affect multiple dimensions of the transition simultaneously. Considering both development performance and structural importance therefore provides policymakers with a more complete basis for identifying where interventions can deliver the greatest system-wide impact.

The central question facing policymakers is therefore not simply whether progress is being made. Rather, it is whether resources, investments and policy attention are being directed towards the components that exert the greatest influence over the wider transition system. The analysis that follows examines this question through the lens of Southeast Asia's energy transition.

Why is this important?

Applying the localised Southeast Asia ETI to the eleven ASEAN [4] Member States confirms that the region has made meaningful progress in its energy transition over the past two decades. Between 2000 and 2023, the average regional ETI score increased from 41.3 to 47.2, reflecting improvements in areas such as energy access, energy stability and broader transition readiness. Cambodia recorded the largest overall improvement during the study period, while Singapore remained the region's strongest performer. These findings demonstrate that Southeast Asia is moving in the right direction, albeit at different speeds across countries and transition dimensions.

Viewed through a conventional benchmarking lens, these results would naturally encourage policymakers to focus their attention on the weakest-performing components and countries. Such an approach appears intuitive. If performance scores indicate where progress is most limited, then those areas should logically receive the greatest policy attention. However, the analysis presented in this study suggests that this interpretation tells only part of the story.

By examining how different components interact through networks of synergies and trade-offs, a different set of policy priorities begins to emerge. The analysis shows that the components with the weakest performance are not necessarily those that exert the greatest influence over the wider energy transition system. Equally, components that perform relatively well can remain central to the system because of the trade-offs they generate. Two contrasting examples illustrate why this distinction matters.

Economic Development demonstrates that weak performance does not necessarily imply limited influence. Across much of Southeast Asia, this component records comparatively modest performance, suggesting that it could easily be regarded as one among several areas requiring improvement. Yet the network analysis reveals that Economic Development occupies one of the most influential positions within the regional synergy network. Improvements in Economic

[4] ASEAN: acronym for Association of Southeast Asian Nations.

Development strengthen investment capacity, support technology deployment, enhance institutional capability and facilitate infrastructure expansion, creating positive spillover effects across multiple dimensions of the energy transition. In other words, despite its relatively weak performance, Economic Development functions as a strategic enabler of broader transition progress.

Energy Stability illustrates the opposite relationship. It consistently records among the highest performance scores across Southeast Asia, which might suggest that it requires less policy attention. However, the network analysis identifies Energy Stability as one of the most important sources of trade-offs within the regional transition system. Maintaining reliable and affordable energy supplies often requires balancing competing objectives, particularly during periods of rapid decarbonisation. Policies that strengthen energy security can sometimes delay emissions reductions, while aggressive decarbonisation efforts can challenge affordability and system reliability if supporting infrastructure is not developed in parallel. Strong performance therefore does not necessarily reduce structural importance.

Together, these two examples demonstrate why performance indicators alone provide an incomplete basis for determining policy priorities. Benchmarking frameworks remain valuable for measuring progress, but they cannot fully reveal where policy interventions are likely to have the greatest system-wide impact. That perspective only becomes visible when the structural relationships between different transition components are examined.

The network analysis further shows that these structural relationships are far from random. Rather, trade-offs are concentrated around a relatively small number of components that consistently shape broader transition outcomes across the region. In particular, Clean Energy and Environmental Sustainability emerge as the two most influential nodes within the regional trade-off network.

This finding carries important policy implications. The challenge is not that clean energy creates problems. On the contrary, accelerating clean energy deployment remains indispensable to achieving climate and energy transition objectives. Rather, the findings demonstrate that progress in Clean Energy is closely intertwined with challenges relating to grid integration, transmission capacity, system flexibility, energy storage, land use and environmental management. Similarly, Environmental Sustainability intersects with industrial development, resource use and infrastructure expansion in ways that create complex policy trade-offs. These components therefore require integrated policy responses that address the wider system rather than individual objectives in isolation.

At the same time, the analysis paints a more optimistic picture of where governments can generate the greatest positive impact. Components such as Economic Development, Energy Access, Innovation and Infrastructure occupy central positions within the regional synergy network, indicating that improvements in these areas reinforce progress across multiple transition objectives simultaneously. Investments in these enabling components therefore produce benefits that extend well beyond their immediate policy goals,

strengthening the overall effectiveness of the transition.

Importantly, while these regional patterns are broadly consistent, the analysis also reveals significant differences between countries. Singapore, for example, derives much of its systemic strength from Innovation, reflecting the importance of technological capability and institutional capacity within its transition pathway. In contrast, Economic Development occupies a more central position within Myanmar's transition network, highlighting the stronger interactions between economic growth and broader transition outcomes. These differences reinforce the importance of tailoring policy responses to national circumstances rather than applying uniform policy prescriptions across Southeast Asia.

Perhaps the most striking finding is that several structural priorities remain remarkably consistent over time. Despite the Global Financial Crisis, the COVID-19 pandemic, changing energy markets and evolving policy priorities, Clean Energy and Environmental Sustainability continue to occupy central positions within the regional trade-off network throughout the study period. This suggests that they represent enduring structural features of Southeast Asia's energy transition rather than temporary challenges arising from specific external events.

Taken together, the findings point to a fundamental shift in how energy transition priorities should be identified. Policymakers have traditionally asked where performance is weakest and directed resources accordingly. While this approach remains important, it is no longer sufficient for managing increasingly interconnected energy systems. The evidence from Southeast Asia suggests that governments should instead ask a different question: which components exert the greatest influence over broader transition outcomes? By combining performance assessment with structural analysis, policymakers can move beyond measuring progress to identifying where intervention can deliver the greatest system-wide impact.

What should the policymakers do?

1. Localise Energy Transition Benchmarking Frameworks to Better Reflect Regional and National Realities

Global benchmarking frameworks provide valuable reference points, but they are not always sufficiently sensitive to the circumstances of emerging economies. Differences in development priorities, resource endowments, institutional capacity and data availability can limit their usefulness when applied directly to Southeast Asia[5].

Governments should therefore adapt international benchmarking frameworks to better reflect local conditions while maintaining international comparability. Regional organisations, development banks and research institutions can support this effort by strengthening data collection systems, developing localised indicators

[5] International Energy Agency. 2024. Southeast Asia Energy Outlook 2024. Paris: International Energy Agency.

and establishing common methodologies that improve policy relevance. More context-sensitive benchmarking frameworks will provide policymakers with a more accurate understanding of transition challenges and opportunities.

2. Move Beyond Performance-Based Assessments and Incorporate Structural Importance into Transition Planning

Traditional benchmarking exercises focus primarily on measuring progress. While such assessments remain important, they do not necessarily identify the components that exert the greatest influence over broader transition outcomes.

Governments should complement performance-based assessments with analyses of structural importance when developing national energy transition strategies, climate action plans and long-term development roadmaps. Doing so would enable policymakers to identify systemic bottlenecks, prioritise high-impact interventions and allocate resources more effectively. Institutionalising this dual approach can help ensure that policy priorities are determined not only by where performance is weakest, but also by where intervention can deliver the greatest system-wide benefits.

3. Prioritise Structurally Important Bottlenecks That Generate Persistent Trade-offs Across the Transition System

The analysis identifies Clean Energy and Environmental Sustainability as the most influential sources of trade-offs within Southeast Asia's energy transition system. Their importance persists across countries and over time, indicating that they represent enduring structural challenges rather than temporary policy concerns.

Policymakers should therefore prioritise efforts to reduce the trade-offs associated with these components. This requires integrated strategies that combine renewable energy deployment with investments in grid modernisation, energy storage, transmission infrastructure, system flexibility, environmental management and land-use planning. Addressing these structural bottlenecks can significantly improve the effectiveness of broader transition efforts.

4. Invest in Enabling Components that Create Positive Spillovers Across Multiple Transition Objectives

Not all interventions deliver the same system-wide benefits. The findings indicate that Economic Development, Energy Access, Innovation and Infrastructure function as important sources of synergy across the regional transition system.

Policymakers should recognise these components as strategic enablers rather than isolated policy objectives. Investments in innovation ecosystems, infrastructure development, energy access programmes and economic transformation initiatives can generate multiplier effects that strengthen multiple dimensions of transition performance simultaneously. Public investment programmes, industrial strategies and development plans should therefore be designed with a systems perspective that explicitly seeks to maximise these positive spillovers.

5. Strengthen ASEAN Cooperation Around Shared Structural Priorities While Preserving National Flexibility

Although Southeast Asian countries face different circumstances and transition pathways, the analysis reveals several common structural priorities, particularly in relation to Clean Energy and Environmental Sustainability. These shared challenges create opportunities for deeper regional cooperation.

ASEAN Member States should strengthen collaboration through initiatives such as the ASEAN Power Grid, regional electricity trading mechanisms, harmonised technical standards, knowledge-sharing platforms and coordinated capacity-building programmes. At the same time, regional cooperation should not come at the expense of national flexibility. Countries should retain the ability to pursue transition pathways that reflect their specific development priorities, resource endowments and institutional capacities. Effective regional cooperation should therefore focus on addressing common structural challenges while supporting differentiated national approaches.

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Biography

Dr Victor Nian is a Founding Co-Chairman of the Centre for Strategic Energy and Resources. His expertise spans energy and climate policy, sustainability and net-zero strategy, long-term planning, and industrial economy. He is a recognised authority on nuclear energy, digital transformation, and sustainability governance in Southeast Asia. He advises public and private organisations on the geopolitics and market dynamics of strategic technologies. Dr Nian leads efforts in energy policy development, technology commercialisation, value chain development, and private-public collaboration to accelerate the energy transition in emerging Asian economies. He holds a PhD in Mechanical Engineering and a BEng (Hons) in Electrical Engineering with a Minor in Management of Technology from the National University of Singapore.

Yifei Lei works at the intersection of energy transition, sustainability, and climate policy. Her work focuses on translating evidence-based analysis into practical strategies for low-carbon development, sustainable resource use, and cross-sector collaboration. She actively engages with non-governmental organisations, policymakers, and industry stakeholders to support policy dialogue, knowledge exchange, and the design of inclusive transition pathways. Her work aims to bridge research, policy, and practice in support of more resilient and sustainable development outcomes.

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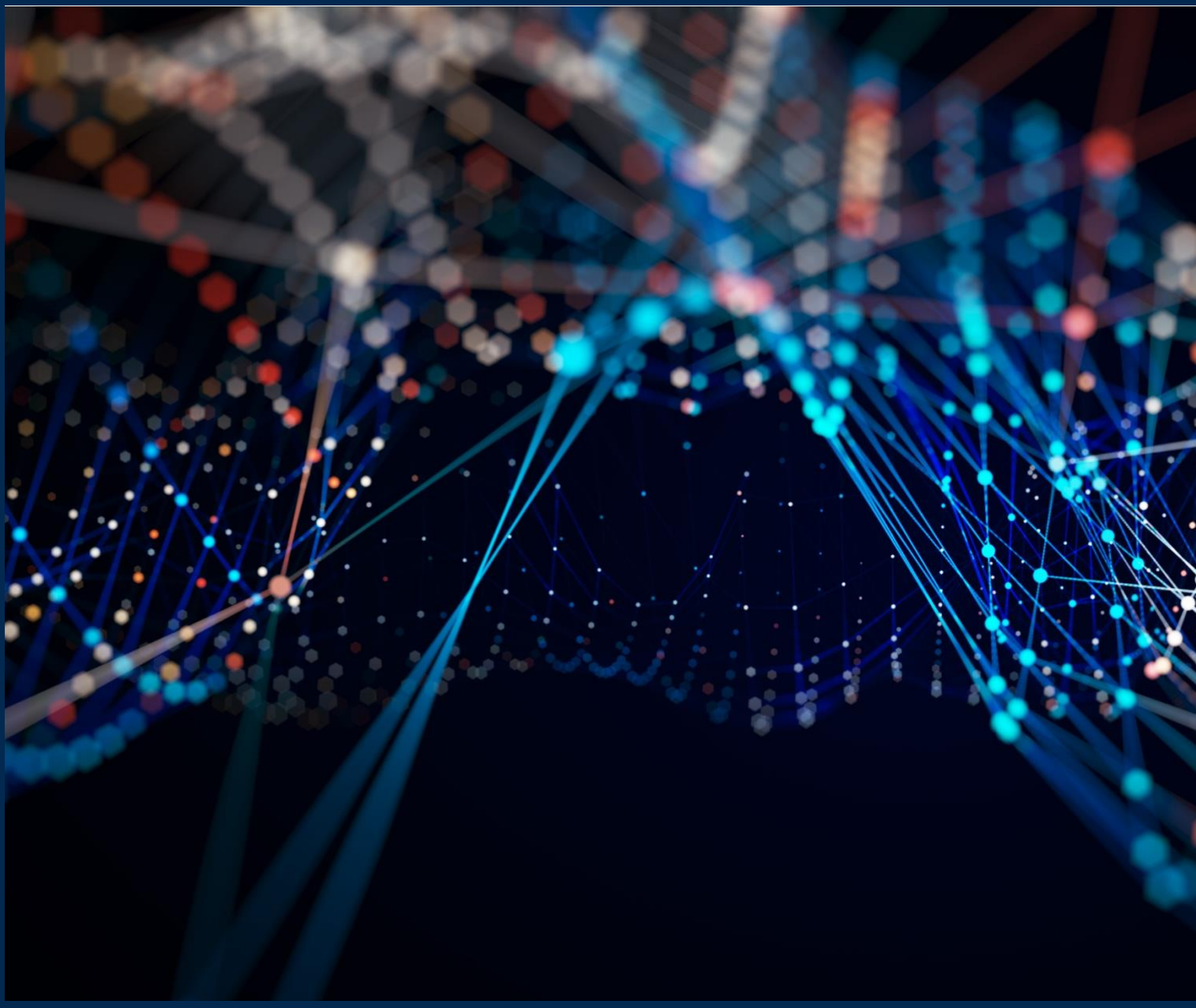

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