

# The AI Slingshot

How to unleash AI at full scale with SAS® Viya®



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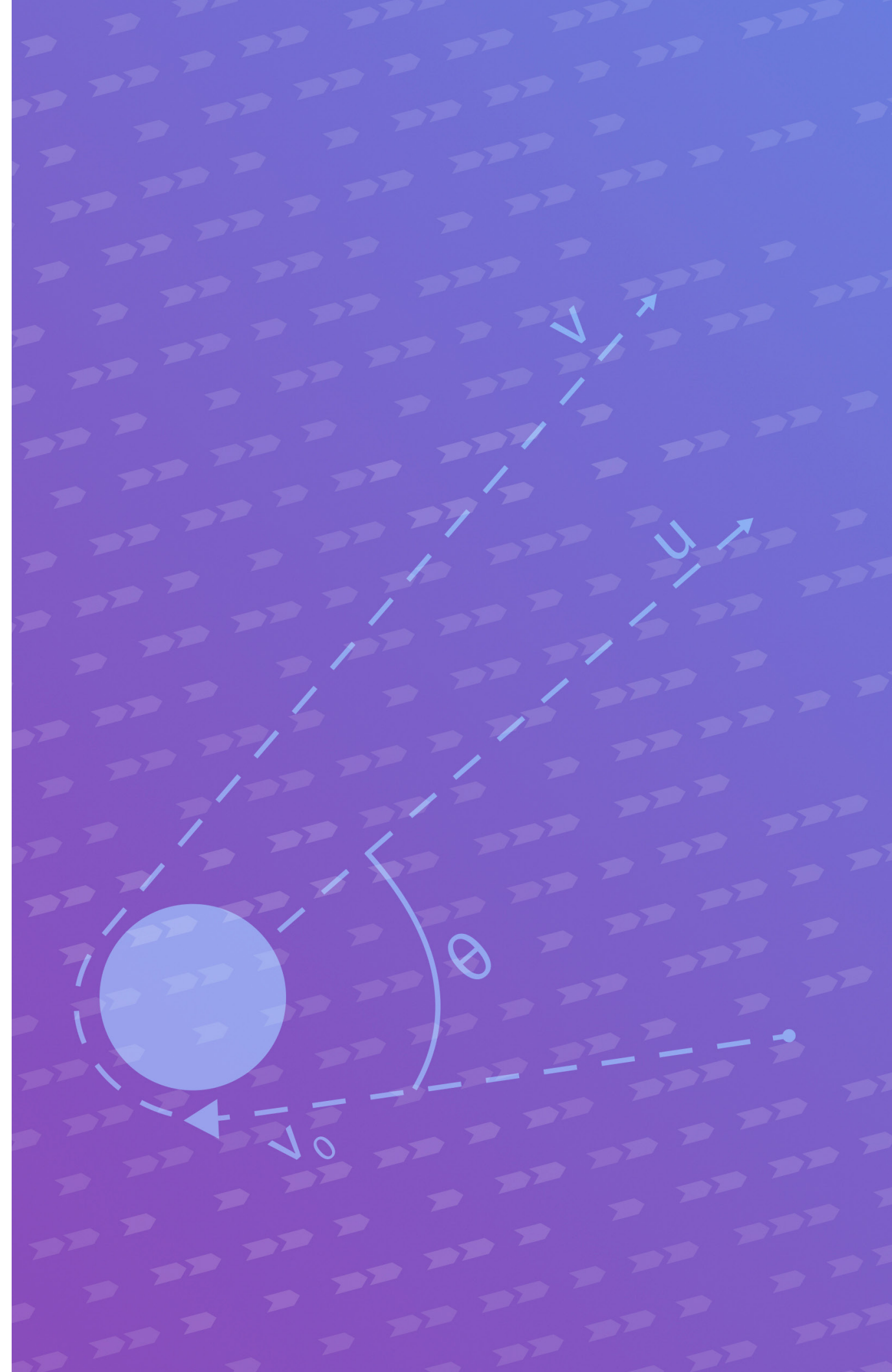
# GET READY TO PROPEL

In aerospace engineering, a “gravitational slingshot” is a way for a spacecraft to use the gravity of other astronomical objects – planets, for instance – to accelerate and alter its path. For example, a spacecraft may navigate just close enough to the moon to use its gravity to go further into space, faster, saving fuel along the way.

What does that have to do with AI? Just as aerospace engineers are trying to find ways to explore deeper into the universe, IT leaders are looking for ways to enable AI at scale in their organizations. To make it happen, you’ll need to be crafty. You don’t have unlimited resources, and you can’t just hire an army of data scientists to make it happen overnight. Further, you can’t jettison existing solutions until their essential capabilities are fully replaced. You’re largely going to have to make it happen with the team you have today.

In short, you need an AI slingshot to propel your organizations to where you want to be.

In this paper, we’ll show how you can make smart, efficient use of the combined power of SAS Viya, Microsoft Azure and other capabilities, based on Accenture’s proven model for scaling AI.



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# CHECKPOINT 1

Have you **defined your data and AI strategies**? Do you know what value you expect to achieve?

By all accounts, determining which software is best suited to serve as the foundation for an AI initiative is one of the last steps in setting AI strategy, and with good reason. Technology is ultimately an enabler for people and processes aligned behind shared strategic objectives – this is one of the time-honored principles of technology-enabled business strategy.

At the same time, however, it is impossible to disentangle AI strategy from the technology that enables it. Discussions about what can actually be accomplished with AI, what should be accomplished with AI, which processes must be put in place to enable AI goals, and the critical role people play in the success of AI capabilities should all be frequently connected to a shared, current understanding of what is actually possible with the enabling technologies. Even if the specific technology has not been selected as these strategy discussions are occurring, the leadership team can make informed discussions about AI capabilities based on what is currently available in the IT marketplace for AI solutions.

While organizations can assemble an AI technology infrastructure using a mix of custom-developed capabilities, commercially available software solutions, existing IT assets and open source tools, there is broadening consensus that an AI-enabling platform is crucial for striking the right balance between innovation and good governance to support AI at scale.

“I am frequently asked by clients whether it would be easier to use the latest shiny new tool rather than a full-on platform,” says Nick Millman, Data Engineering and Architecture Global Lead at Accenture Applied Intelligence. “While I understand the logic behind questions like these, I know from experience that those types of tools are going to come up short if not deployed in the context of a mature platform, particularly when faced with growing needs and complexity.”

A platform like SAS Viya can serve as the connecting tissue between a wide range of stakeholders, extending the flexibility to work with a wide range of tools throughout the analytics life cycle – a critical aspect of any long-term, sustainable data and AI strategy.

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– Nick Millman, Data Engineering and Architecture Global Lead at Accenture





POWERFUL TOOLS



FLEXIBLE DEPLOYMENT



ADAPTIVE ANALYTICS

## CHECKPOINT 2

Is the data you're currently using going to be able to **deliver the expected outcome** for your use cases? What adjustments are needed? Can your features be expanded to support additional use cases?

Successful AI strategies can draw from and synthesize a wide range of data types. In practical terms, this means that given the likelihood that organizations will have several different types of AI technologies in place, it is important to have powerful data and analysis tools capable of pulling together all the different types of data generated by these technologies. Once they have the data in hand, leaders will need to have flexibility in deploying it to inform many different types of decisions. Some will be entirely ad hoc, unexpected and opportunistic. Others will be routine and somewhat predictable, such as weekly forecast updates or decisions about making sales and marketing campaigns more effective.

Think of this approach as "multidisciplinary analytics" - not just one algorithm matched with one challenge or opportunity, but a baseline of analytics capabilities that can be deployed quickly to address fast-changing business needs.



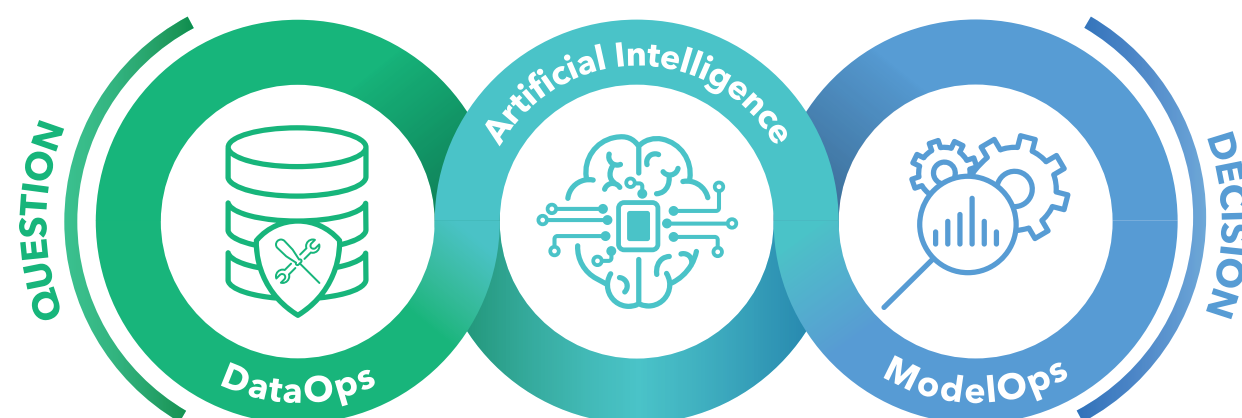
# CHECKPOINT 3

Are there any **adjustments you need to make to your operating model** to optimize how these specialists can work together?

AI strategies both consume and generate massive amounts of data, creating valuable opportunities to measure the results of these strategies in real time, across many variables - and then refine and iterate them to improve outcomes. For example, consider vehicles that apply real-time processing to streaming sensor data. This requires the ability to manage millions of lines of data, make sense of that data with analytics, then deliver the resulting insights - not only to the drivers themselves, but to

different stakeholders at auto manufacturers - in ways that are tailored to their needs, skills and abilities. (For instance, a data scientist requires different types of insights than front-line business users.) Individual use cases will drive the design of these insight-delivery user interfaces.

In this context, a central operating environment - not a self-service tool, but a highly guided, process-centric solution - is required to drive integration across the organization in support of AI goals. This centralized approach helps ensure that should an operating model fail or fall short, or other organizational hurdles are encountered, they can be quickly identified and remedied.



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# CHECKPOINT 4

Are you seeing **opportunities to engage more vendors or partners** before moving into production?  
Do you have the right team and feedback loops to continuously improve production?

AI strategies are likely to touch every part of the business, from finance to operations, sales to service, and beyond. As a result, those responsible for implementing and managing AI solutions should be confident in their ability to engage meaningfully with not only these individual groups but also the ecosystem of partners and providers on which they rely every day. Many leaders have found it useful to develop a map of this ecosystem, identify critical partners on the map with direct relevance to AI capabilities, and proactively connect with them to assess their needs and ability to extend the strategy – well before the strategy is activated. Cloud providers are perhaps the most obvious example of these types of partners.

This type of disciplined approach can help AI leaders avoid a common shortcoming: Too often they expend valuable resources to gather and clean data, build the infrastructure to support AI capacity, and develop the models, but then find that those models are rarely put into production because of disconnects between groups both within and outside of their organizations. Laying the groundwork with key partners ahead of time can have a positive impact on AI deployment and operationalization over the long term.

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# CHECKPOINT 5

Have you updated your risk frameworks to incorporate **contingency plans for incorrect outcomes**? Who is accountable for the decisions made by AI systems?

The concept of “explainability” is particularly important in AI, given the black-box nature of both the algorithms and data on which it relies, as well as the potential impact of mistakes and unintended biases in AI-driven decision making.

In past AI initiatives, many leaders report frustration at not knowing why decisions are made and on what data those decisions are based. However, transparency in AI models can be achieved. For example, key elements of explainability are built into SAS Viya, making it easier for users to understand exactly how they are operating and, in some cases, why the models are not functioning as intended. Some of these elements include data lineage, model lineage and model interpretability. And SAS Viya uses business language to explain models where applicable. This is a valuable capability for those with risk management responsibilities, many of whom have traditionally approached AI with healthy suspicion. Their risk management frameworks require some level of transparency - and today's leading platforms can deliver.

AI solutions are not created in a vacuum, of course. Their operation is the direct result of human oversight and deployment. When these solutions expose the organization to unwanted risks, it is also important to examine, understand and remediate the root causes behind incorrect results, establishing clear lines of accountability for their decisions in the solution development process.



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# CHECKPOINT 6

Are you **realizing value as expected or projected**? How are you measuring it? Are there opportunities you need to maximize?

**AI initiatives can only achieve value when they're deployed.** While this may seem like an obvious point, it underscores the hard reality that getting AI projects off the ground is still one of the most difficult hurdles for organizations to overcome, especially when combining different tools and technologies from multiple vendors. Too often, this leads to added costs and complexity - or even deployment failure. According to Laetitia Cailleteau, Managing Director and Data and AI Europe Lead at Accenture, "Our clients have quickly realized that they can't afford for their excitement over AI to obscure the need to establish rigorous processes that support the AI development life cycle - and deliver the value their organizations expect."

That's where a composite AI approach, with SAS Viya at the center, orchestrating a wide range of auxiliary AI capabilities, can make all the difference. SAS Viya provides AI, machine learning, and advanced analytics capabilities in a single environment that serves the full end-to-end analytics lifecycle. It supports models in many different languages, including Python and R, helping move models from sandbox to production in an organized, governed manner. So when it's time to scale, all the key elements are already in place. And with low- and no-code interfaces available, this approach to composite AI is for everyone, not just data scientists. It democratizes access to data and analysis, reducing the organization's reliance on expensive, hard-to-find AI talent.

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# WE HAVE LIFTOFF

If these principles sound familiar, it's with good reason. In many ways, AI adoption and implementation are no different from any other transformational technology, and it requires many of the same time-tested approaches. One big difference: More than any other recent, major technology development, AI depends on an ecosystem of tools, enterprise solutions, data sources and users to be successful. That's where the ability to align all these capabilities in meaningful, scale-ready ways becomes even more important. Spend all your time tracking down integrations between them, and you may never achieve liftoff.

If you have many of the elements in place for AI but are still having difficulty putting them together, SAS and Accenture can help.



**Intel Inside.** Successful analytics initiatives require tight alignment between hardware and software in the hands of skilled technologists and strategists. That's why the ongoing collaboration between SAS, Intel, and Accenture is so important for clients. Together, we know how to connect all the dots on analytics strategies to deliver practical solutions that deliver real, measurable results – at any scale.

For more information, visit



[sas.com/viya](https://sas.com/viya)



At SAS, we love bold questions. And when we combine our analytics leadership with the innovative technology and expertise of our partners, we help our customers turn data into answers. That's the kind of curiosity that moves the world forward. That's the **Power of the Partner**.

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