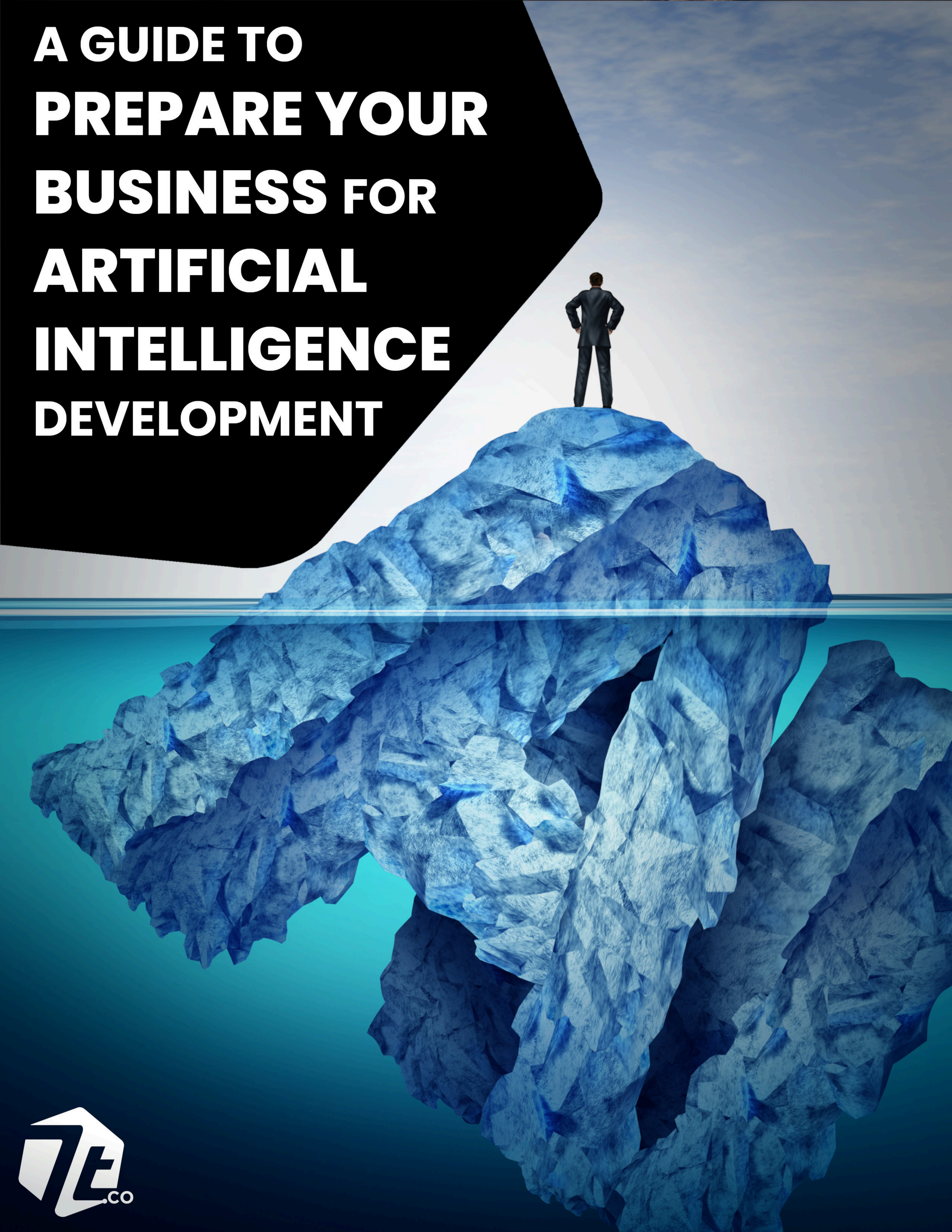
A GUIDE TO PREPARE YOUR BUSINESS FOR ARTIFICIAL INTELLIGENCE DEVELOPMENT



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A GUIDE TO PREPARE YOUR BUSINESS FOR **ARTIFICIAL INTELLIGENCE (AI) DEVELOPMENT**

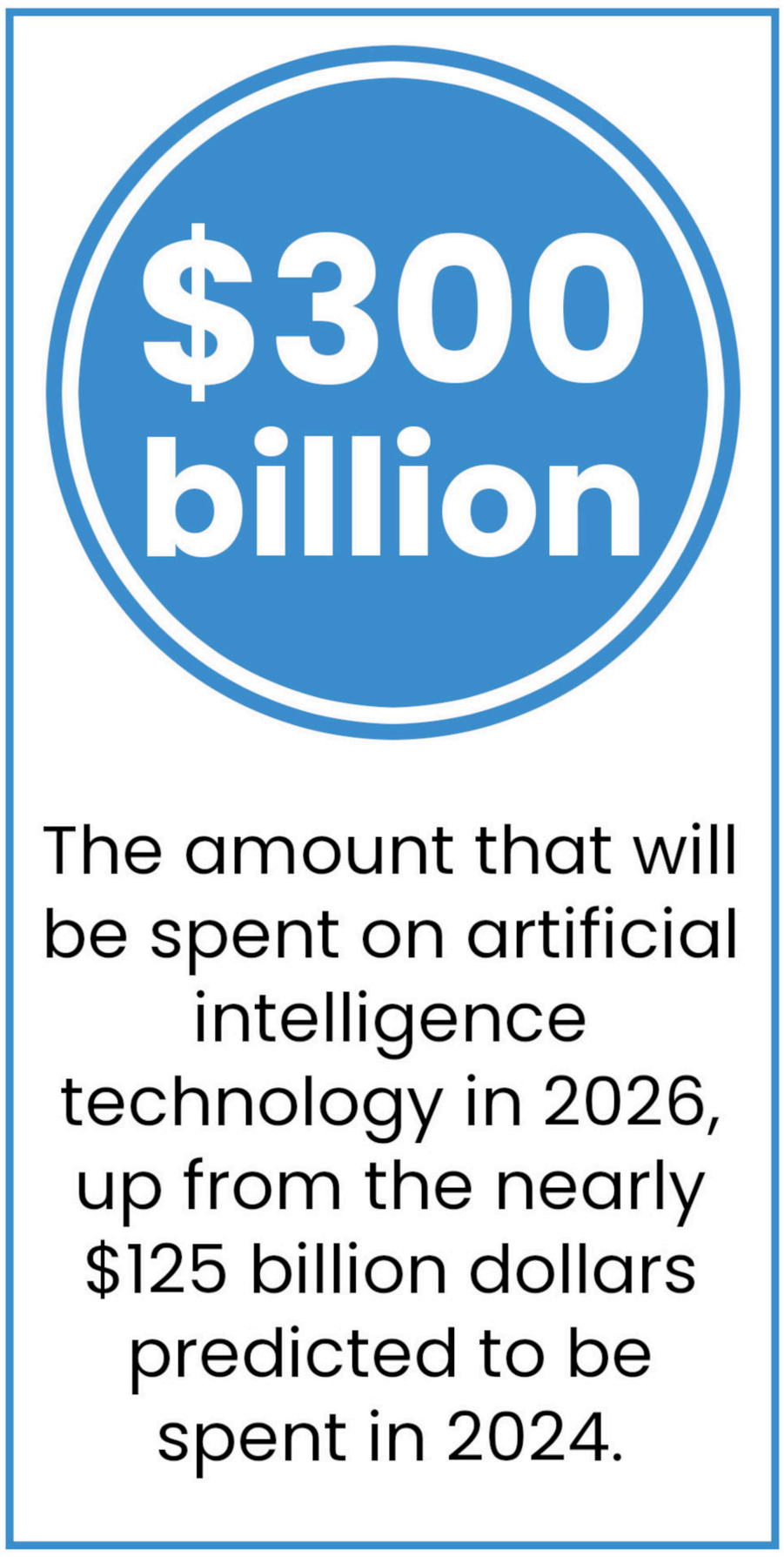
Artificial intelligence. It's a technology that's already impacting the ways in which we live, work and play. Yet AI is in the dawn of its life and it promises to be profoundly transformative. But how can your organization leverage AI in a way that generates a competitive advantage, backed by a healthy ROI? Harnessing the power of a new, innovative technology can be quite challenging.

The emergence of artificial intelligence has prompted many business leaders to wonder, "How can I use AI to my advantage?" Worldwide, expenditures on artificial intelligence-powered software and other AI technologies will surpass $154 billion dollars in 2024 and by 2026, the International Data Corporation (IDC) predicts that that figure will skyrocket to more than $300 billion dollars.

AI is now within reach for your organization. Artificial intelligence is no longer just for Fortune 500 companies and large corporations with deep pockets. The emergence of foundation models has opened the door to AI for small- and medium-sized businesses (SMBs).

"In the past, you needed an exorbitant volume of data to train the machine learning models that are used for AI," explained 7T, VP of Enterprise Services Steve Parta. He added, "Many of today's models require much less in terms of training data, which opens the door for smaller companies who do not have the massive volume of data that you typically see with larger enterprises. The pricing is also within reach of SMBs now, so we're now seeing an increased number of SMB clients seeking to pursue AI development projects."

It is factors such as these that have made AI development far more feasible and more affordable, allowing for a broad range of



The amount that will be spent on artificial intelligence technology in 2026, up from the nearly $125 billion dollars predicted to be spent in 2024.

applications for organizations in virtually any industry.

There's no doubt that artificial intelligence will come to dominate the Digital Transformation industry as new, powerful use cases for AI emerge. It's simply a matter of putting AI to work for your organization in a way that solves problems, improves operations and ups productivity. Make no mistake, though; this is no small feat and it all begins with your data. But first, you'll need a plan in the form of a business requirements document or BRD.

Planning for an AI Development Project With a Business Requirements Document

Every successful Digital Transformation project is rooted in the specs that are addressed in a business requirement document. A BRD prompts business leaders to consider their organization's needs, challenges and shortcomings. Then, it's time to develop technology that serves as a solution to those challenges and shortcomings, while simultaneously improving operations, increasing productivity and even using technology to free

Common Mistakes

Never deploy AI — or any other technology, for that matter — just for the sake of saying you're using artificial intelligence.

This "just do it" approach to Digital Transformation virtually always fails when it comes to meeting or surpassing key performance indicators (KPIs) and ROI.

Success comes when you identify a problem or challenge and then use this to guide you as you architect an AI-powered solution.

humans to focus on higher level tasks.

Many business leaders know they want to leverage AI technology but they're uncertain on how to use artificial intelligence in a way that meets or surpasses KPI objectives and generates healthy returns. It all begins by asking questions such as, "What are the organization's challenges and shortcomings?" Then, taking a problem → solution approach, you must consider how to overcome those challenges and achieve your goals with technology such as machine learning-powered AI. This is the perfect time to engage with your chosen AI development partner, as they can consult on the project and provide insights into what's feasible and practical from a technical perspective.

Before a single line of code is written, your business requirements document should be completed, outlining the problem and, ultimately, your innovative, AI-powered solution.

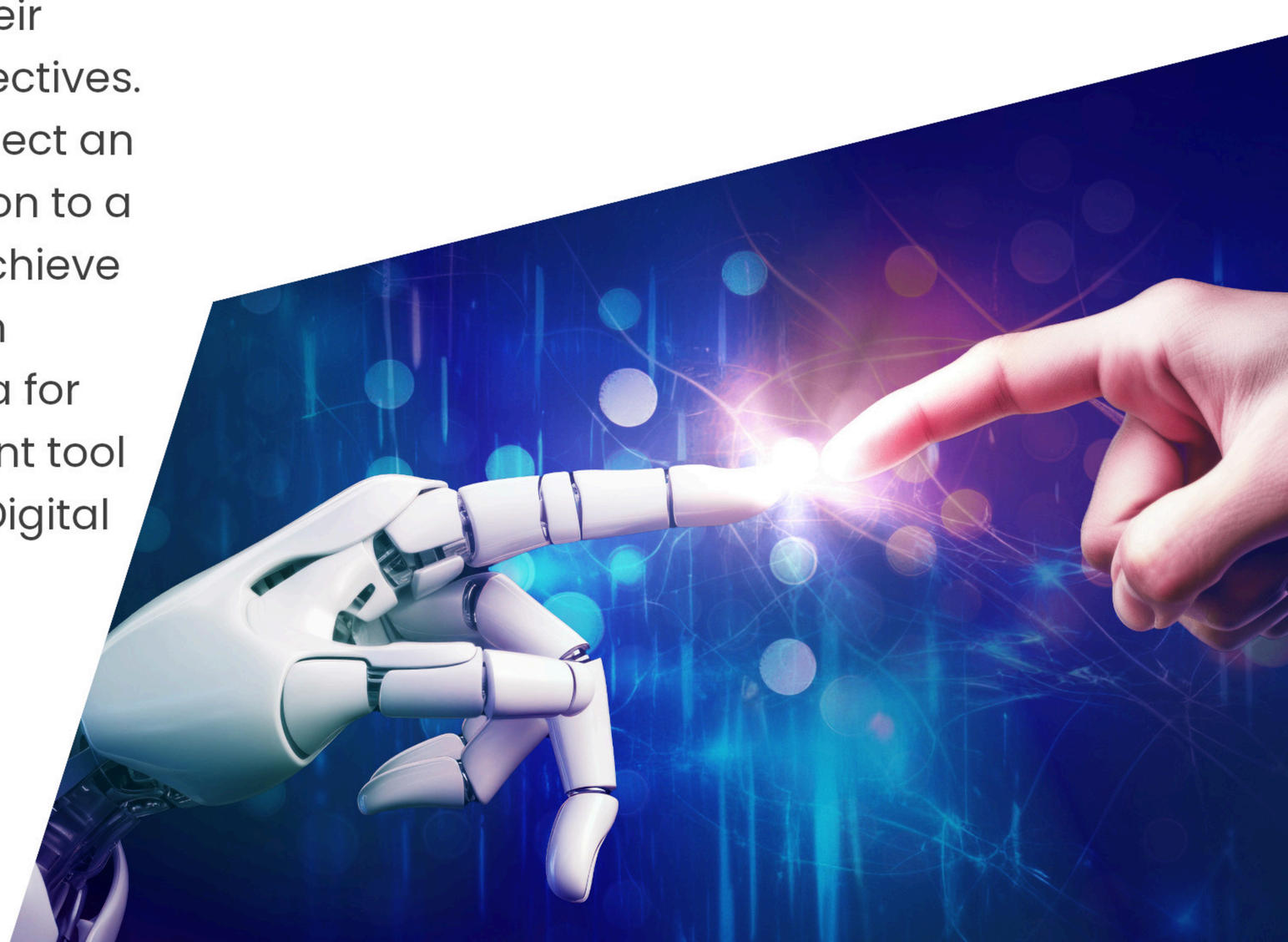
User stories are another critical component of the business requirements document, as they define the various user types, their needs, their challenges and their objectives. Using this information, you can architect an AI solution that is truly that — a solution to a problem that serves to help you to achieve your KPIs and maximize ROI. This is an opportunity to determine your criteria for "success" too. This will be an important tool for gaining stakeholder buy-in for a Digital Transformation project.

Your BRD will also outline expected outcomes, allowing you to clearly articulate the project's objectives and key performance indicators. When KPIs are evaluated down the road, you'll have the opportunity to make updates and modifications that will improve ROI and operational efficiency.

The Role of Data in an AI Development Project

Data is at the core of your artificial intelligence development project. But where is your data located? Is the data structured, semi-structured or unstructured? These are just a couple of the questions that you'll need to address as you embark upon an artificial intelligence development project.

Data is used to develop machine learning algorithms that drive AI. So it's a matter of identifying relevant data sources and providing this information to your development team. In some cases, you may need to perform a partial or complete overhaul of the organization's data stores to gain a maximum benefit from your AI technology.



Evaluating and Preparing Your Data for an Artificial Intelligence Development Project

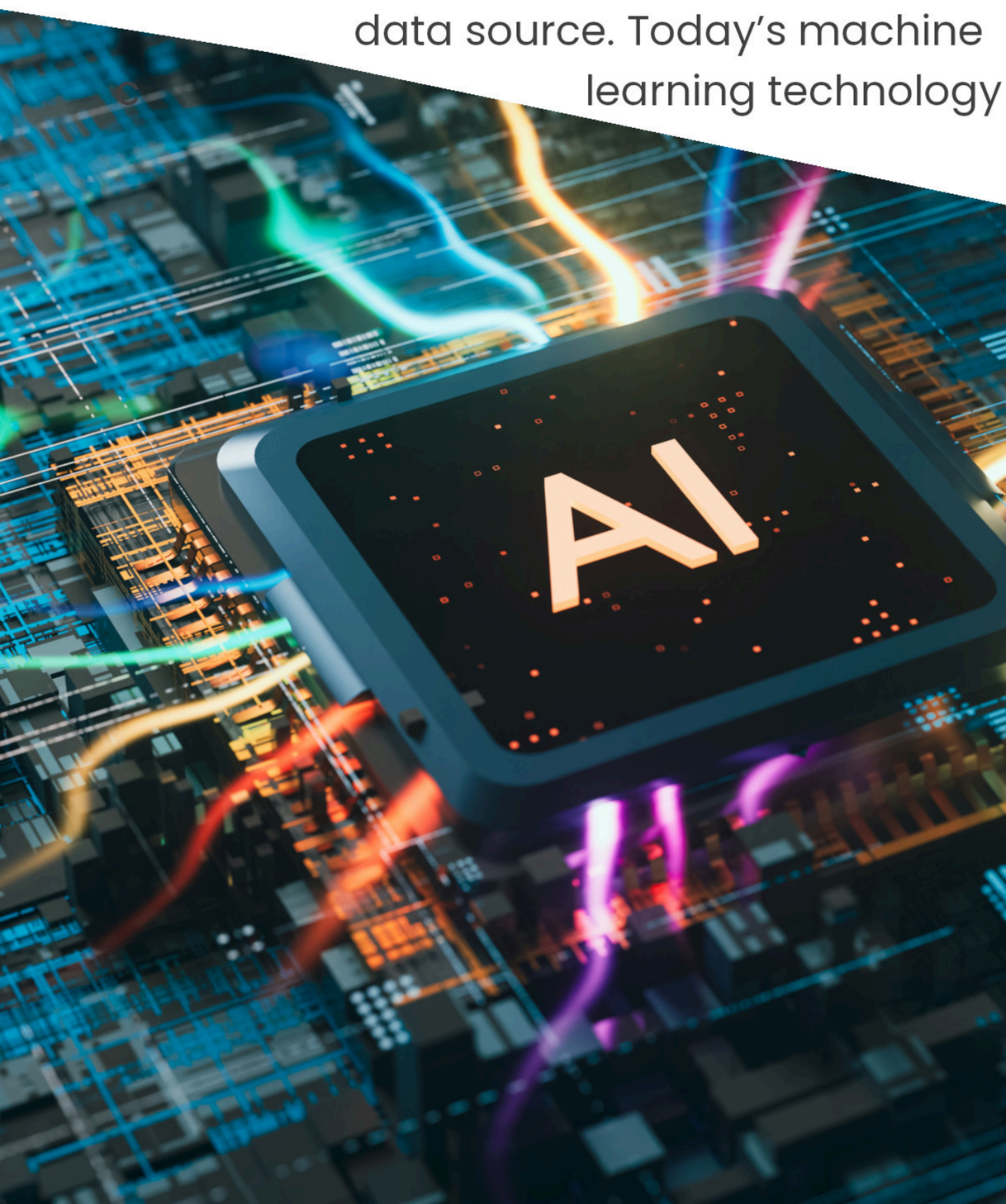
An organization's data will be used as the central core of an AI project. Data is used to develop the machine learning algorithms that drive an artificial intelligence platform.

Multimodal machine learning has proven to be game-changing technology, opening the door to more efficient machine learning algorithm development. This has, in turn, shifted AI so it is now within reach for small- and medium-sized businesses (SMBs) — not just the most deep-pocketed large enterprises. In other words, even smaller companies can afford AI development thanks to the emergence of multimodal machine learning.

Multimodal machine learning pulls data from multiple sources, whereas single-modal machine learning allows for just one data source. Today's machine learning technology is increasingly powerful, driving the advancement of AI in a way that requires less data to develop the sophisticated machine learning algorithms that power artificial intelligence. As the name implies, machine learning also allows for continual improvement over time, meaning that your AI technology can deliver an increasing ROI over the long term.

Did You Know...

Did you know that machine learning technology brings about a gradual improvement over time, resulting in an ROI that increases over time as well!



Steps to Prepare Your Data for AI Development

Consider these steps to prepare your data for the development of an AI machine learning algorithm.

- **Identify and Locate Data Sources**

  Where is your data stored? Where is the data originating from? Locate the data in question and provide access to the development team.

• Evaluate the Data

Do you have structured, semi-structured or unstructured data? Data type plays a major role because it determines how your data can be used and how much work is required to make that data useful.

• Determine How the Data Will Be Used

Work with your AI development team to determine precisely how you will be using the data in the creation of artificial intelligence technology. This is also when you determine what measures are required to process your data in a manner that allows for its ideal usage.

Data management is an essential component of a successful AI deployment. For this, you must have a firm understanding of your data and its structure. Don't underestimate the role of data structure, as it can pose some limitations which must be accounted for as you prepare for a machine learning-driven artificial intelligence development project.

• Structured Data

Structured data is stored in a pre-defined format that allows for easy use by machine learning algorithms. ML algorithms can easily crawl and query structured data stores. That said, the highly-specific nature of structured data can pose limitations. Structured data is typically stored in a data warehouse which tends to lack flexibility and scalability.

• Unstructured Data

Unstructured data is varied in nature, with data stored in native formats from a disparate variety of sources. Machine learning algorithms face significant challenges when processing unstructured data, but it does bring advantages from a competitive standpoint thanks to its voluminous nature.

• Semi-Structured Data

Semi-structured data is a hybrid of sorts because it falls outside the realm of structured data — also known as relational databases — but there is some structure, such as data from JavaScript Object Notation (JSON) files, along with graph databases and key-value stores.

The greater number of formats makes unstructured data challenging to analyze and leverage. But since there is no pre-definition, unstructured data is easy to collect in large volumes. This translates into a competitive advantage because a larger amount of data allows for improved insights. Additionally, unstructured data is often stored in cloud-based data lakes or on-premises, both of which are highly scalable.

Structured Data Management vs. Unstructured Data Management

There are two basic approaches to data management when dealing with structured and unstructured data.

• Schema-on-Write

With Schema-on-write, the schema — or structure — for the data is defined when the data is written to the database. This approach is typically used in conjunction with structured data, where the schema is known and can be used to optimize data storage and performance.

• Schema-on-Read

With schema-on-read, the schema is defined when the data is read from the database. In this data management model, the schema is not known in advance and it's subject to change since you're dealing with unstructured data.

Data accounts for a significant portion of the AI development process because it's data that will be used to create the machine learning models. Those machine learning algorithms will drive your artificial intelligence technology. For this reason, it's important to spend a significant amount of time identifying data sources, the type of data you're collecting and working with your AI development partner to make the most of your data. In some cases, you may need to perform an overhaul of your data stores to get the maximum benefit from your technology.

Putting Your Data to Work With a Machine Learning-Driven AI Solution

Once your data has been evaluated and the aforementioned steps are complete, it's time to begin development of the multimodal machine learning algorithm that will power your artificial intelligence technology.

The reality is this: many organizations don't even know how many customers they have because the data is spread across multiple data platforms. Fortunately, though, there are many ways to bring these data streams together, which is where an experienced data management specialist can assist as you work to evaluate your data and develop a plan to make the most of those data streams.

Data is at the core of machine learning-driven AI, so we cannot underestimate the importance of efficient data management.

Calculating ROI, by comparison, is relatively easy when you crunch the numbers. Let's say a company is taking in 100,000 emails per month and each of those emails must be read by a human, with many leading to a subsequent action. Artificial intelligence can be used to review and screen emails, generate responses or perform other tasks that humans would otherwise perform. This frees humans to focus on other higher-level tasks, resulting in a more significant ROI.

> **"The challenge isn't the volume of data. It's how that data is being stored in different data lakes and third-party platforms. You need to bring those data streams together so it can be leveraged by AI."**
>
> ~ Steve Parta
> *7T VP of Enterprise Services*

Process Mapping for an AI-Powered Solution

Once you have identified the problem and an AI-powered solution, you'll need to work with your AI development partner to map out the precise steps in the processes that artificial intelligence will be performing. This is a key component of 7T's development process; one that is also addressed in your Business Requirements Document (BRD).

An artificial intelligence project will follow the typical development process of discovery, innovation, agile development, deployment and evaluation.

Developing AI That Delivers Well Into the Future

There's no doubt that we'll continue to see rapid advances in the realm of artificial intelligence and now is the perfect time to begin putting this technology to work for your organization. The key is to architect AI that delivers the maximum benefit, with a development strategy that extends well beyond deployment. Consider how your artificial intelligence technology may evolve in pace with your business.

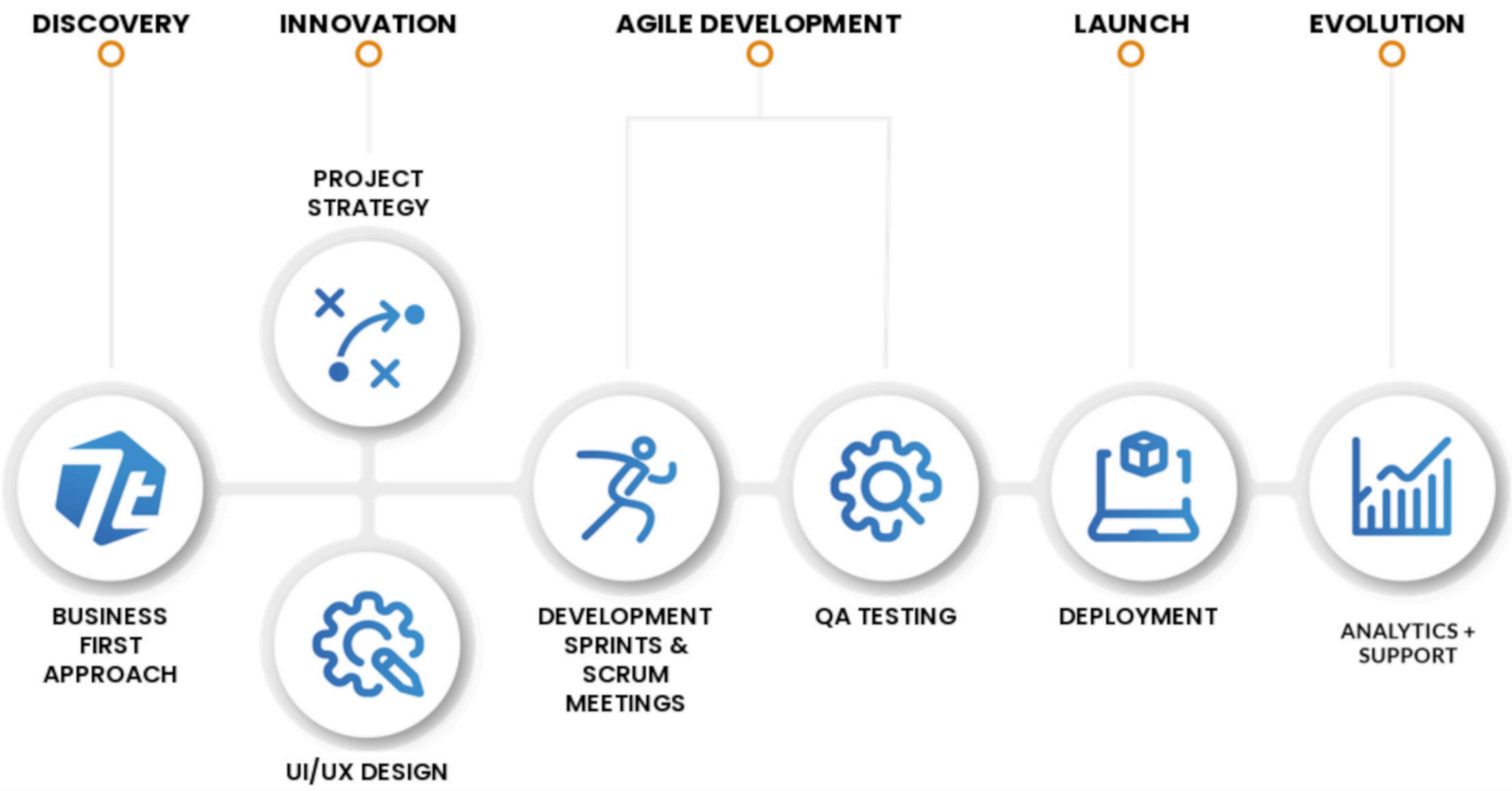
The best AI deployments — and the ones with the greatest ROI — are those that evolve and change to accommodate your company and its

operations. Consider how advances in AI could impact your organization down the road. And remember to plan for AI maintenance and upgrades from a financial stance and from an operational perspective. The average allocation for annual maintenance and updates is around 15% to 20% of the original project cost, with some variance depending upon factors such as the complexity of the technology.

Technology can quickly become outdated and fast-evolving fields such as AI require regular maintenance and updates in order to deliver a consistent competitive advantage and a consistently high ROI.

If you're ready to learn more about AI development, contact 7T. We'd love to discuss your project.

Our Process



AI CHECKLIST

A GUIDE TO PREPARE YOUR BUSINESS FOR

ARTIFICIAL INTELLIGENCE (AI) DEVELOPMENT

- ☐ **1 - Identify the Business Challenges and Outline the Need.** *Your project must be guided by your business strategy, your challenges and your goals for the future. This problem → solution approach to AI development positions you for success, both from an operational standpoint and from an ROI perspective.*
  - ☐ **A - What Prompted You to Seek AI Technology?** *Understanding the challenges, business strategy and objectives that are prompting you to develop AI technology will typically lead you to the ideal implementation.*
  - ☐ **B - Current Process Flow vs Desired New Process Flow Mapping.** *It's essential that you understand your current processes and the new processes that will be implemented alongside your new AI technology.*
  - ☐ **C - Create User Stories for all Stakeholders Who Will Be Using the System.** *User stories allow you to develop an AI platform that serves each type of user to the maximum advantage, ultimately delivering the maximum ROI for your development project.*
  - ☐ **D - Capture Expected Outcomes and Measurable Success Criterias to Develop KPIs.** *Measurable and monitorable KPIs are essential for maximizing ROI in the short term and the long term. This information will guide future improvements and updates too.*
- ☐ **2 - Evaluate Your Data.** *Data stands at the core of your AI technology, so it is essential that you identify all data sources and evaluate those data streams so they can be leveraged in a manner that brings about the maximum benefit.*
  - ☐ **A - Data Sources**
    - ☐ In-House
    - ☐ Second-Party
    - ☐ Third-Party
    - ☐ Any Additional Data Sources

- [ ] **B - Data Type**
    - [ ] Structured
    - [ ] Unstructured
    - [ ] Semi-Structured

- [ ] **C - Data Management Approach**
    - [ ] Schema-on-Write
    - [ ] Schema-on-Read

- [ ] **3 - Complete a Business Requirements Document (BRD).** *Your BRD serves as a detailed road map for your AI development project, outlining your needs as an organization and the technology that will help your organization to achieve its objectives.*
    - [ ] **Check out 7T's BRD eBook, complete with a sample BRD document.**

- [ ] **4 - Work With Your AI Development Partner to Identify the Ideal AI-Powered Solution for Your Application.** *Many clients walk into a project assuming that they need a particular application of AI only to discover that a slightly different application will be more beneficial. Your AI development partner is well-positioned to examine your challenges, your business strategy and your goals, allowing for the development of an artificial intelligence application that will bring about the maximum benefit and ROI.*

- [ ] **5 - Create and Finalize a Development and Deployment Plan.** *Additionally, you should schedule touchpoint meetings on a weekly basis (or more often, if needed.) This ensures that expectations remain aligned throughout the course of the project.*

- [ ] **6 - Create an AI Update and Maintenance Plan.** *Updates and maintenance are critical to the long-term success of your AI technology. Work with your development partner to establish a plan for performing maintenance and updates so you can plan financially, operationally and strategically.*
    - [ ] **A - Short-Term AI Updates and Re-training Data**
    - [ ] **B - Long-Term AI Updates and Re-training Data**
    - [ ] **C - Maintenance and Support Plan**

https://7T.co

Houston Regional Office

1334 Brittmoore Road, Suite D
Houston, Texas 77043
+1 (832) 632-4869

Dallas Headquarters

16803 Dallas Parkway
Suite 300
Addison, Texas 75001
+1 (214) 299-5100

Austin Regional Office

600 Congress Avenue
Austin, Texas 78701
+1 (512) 212-7311