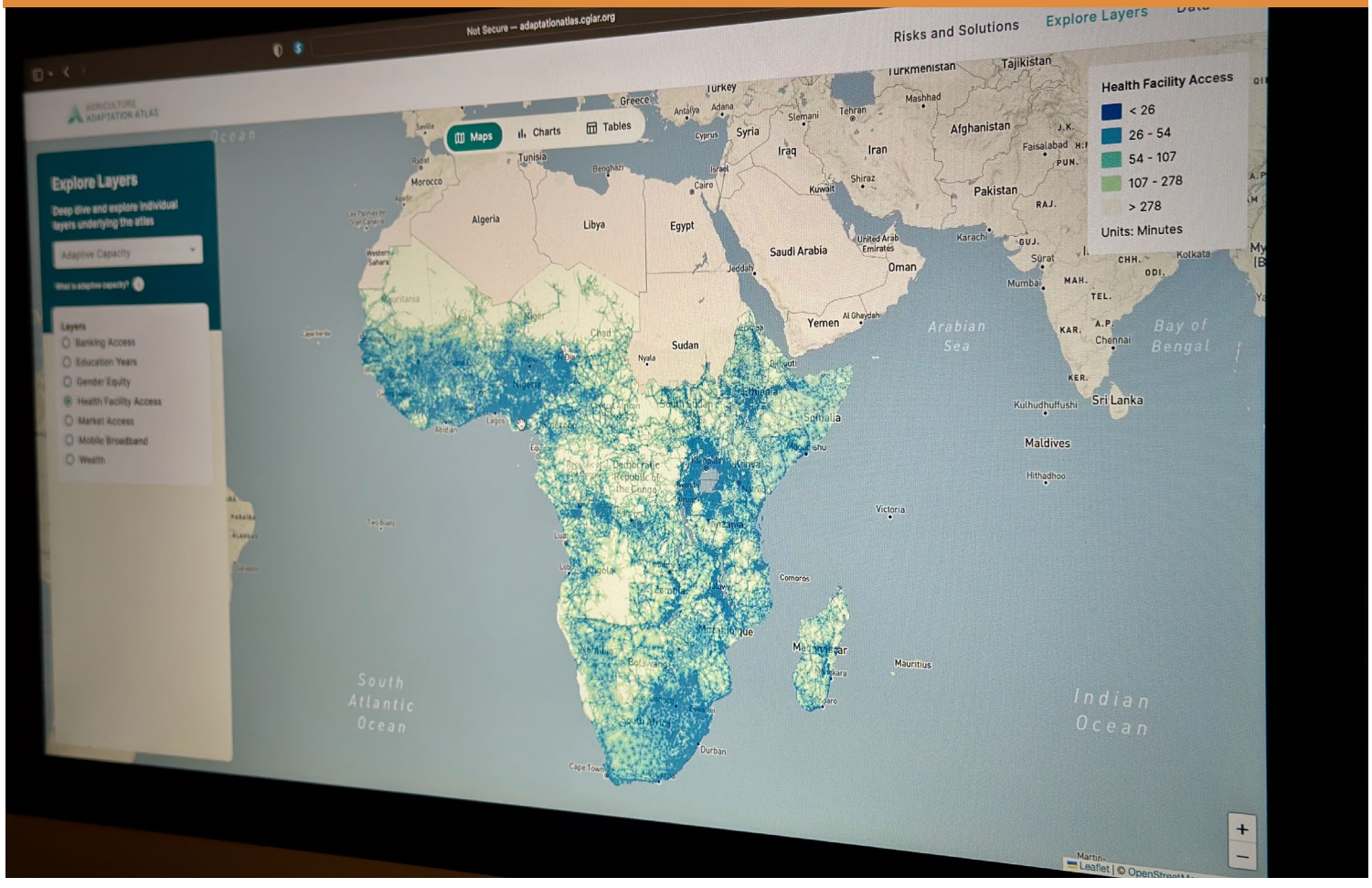
WHITEPAPER

Locana
EVERYTHING LOCATION

Do It All with Modern Geospatial

Open and Proprietary GIS, lightweight applications, and user-driven designs let you do more than ever before



Modern Approach

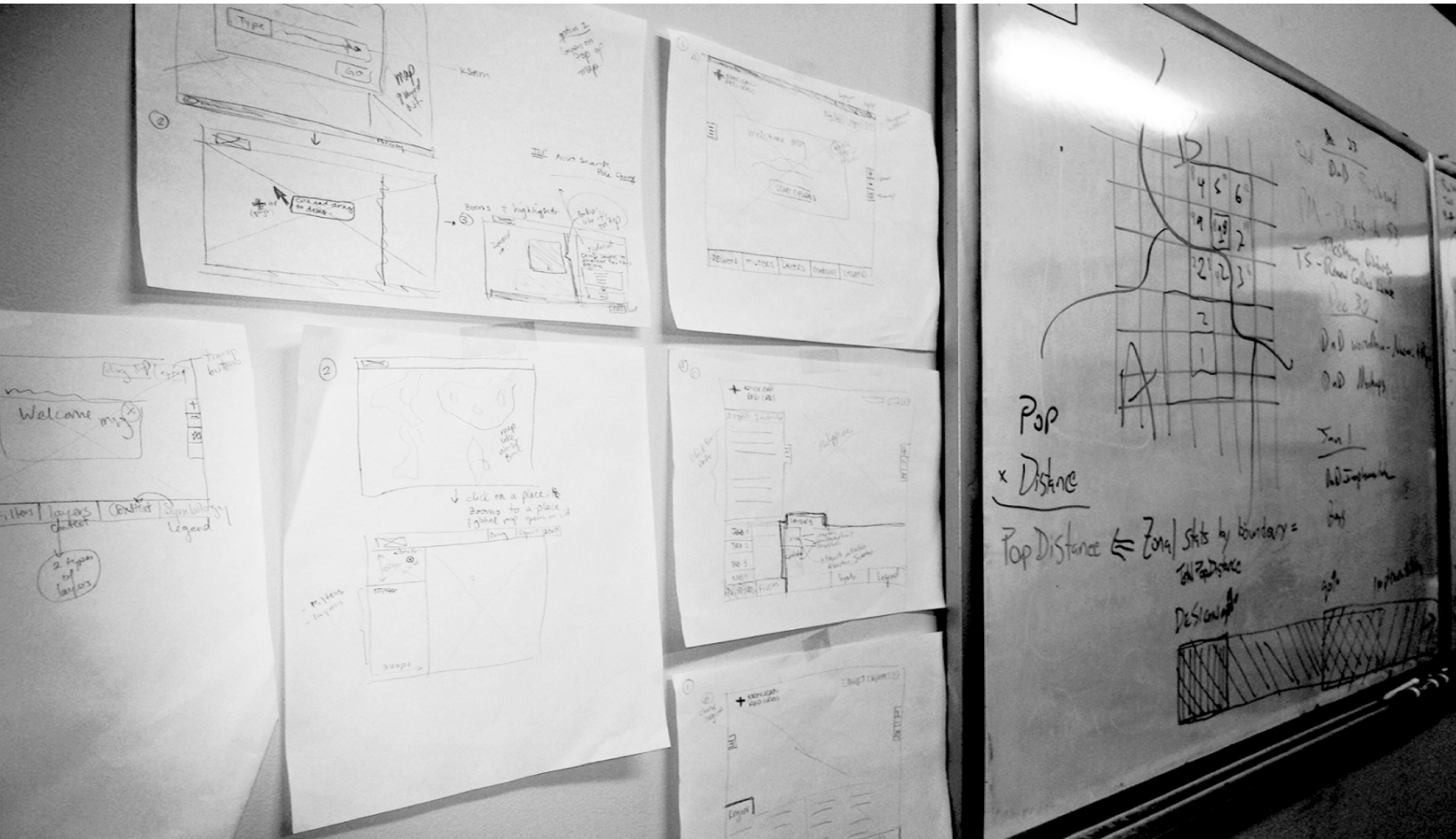
In 2023, modernization is a corporate mantra for organizations operating in almost every industry. Whether it's simplifying processes, enhancing digital experiences, or designing focused apps, these initiatives offer the promise of big business gains.

According to a Boston Consulting Group study, companies that invest in modern information technology achieve growth that is **1.8 times higher** than those that don't. And over **two-thirds** of respondents to an IDG survey state that IT modernization is essential to enable business initiatives, indicating IT's pivotal role in overall business success.

This may be why companies will continue to invest in IT, even during turbulent economic times. According to 2023 Spiceworks Ziff Davis 2023 Report on IT Budgets and Tech, **roughly half (51%)** of organizations plan to increase IT budgets in 2023. And you can add location technology to the mix, with the geospatial market estimated to **reach USD 211.17 billion**, with a CAGR (Compound Annual Growth Rate) of 12.70%, by 2030.

Despite the need for modern IT enterprises, including location intelligence, many organizations are resistent to change. Moreover, the budget, resources, and time can keep even the most ambitious organization from launching new initiatives. That no longer needs to be the case.

Business leaders, IT executives, and GIS managers alike have more options available to them to begin their transformation journey. Blended open and proprietary GIS technology, flexible architectures, lightweight applications, and user-driven designs combine to reduce the pain of enterprise implementations and deliver faster returns on IT modernization. A smart, scalable strategy that enables connecting to legacy databases delivers faster, more powerful, and smarter applications at a lower cost.



Spaghetti IT tastes bad

Companies today are burdened with outdated technology, including siloed systems, disparate databases, incompatible apps, and locally stored data. This results in duplicate, erroneous, and out-of-date data that impacts business decisions and customer experiences. Want to know the cost of these legacy systems and low-quality data? By one measure, legacy systems can force organizations to increase their annual budgets by **15% annually**.

Legacy systems also impede innovation, whether it's AI and machine learning, big data, or IoT. For example, **95% of companies** mention the need to manage unstructured data as a business challenge. Why does that matter in 2023? Because as much as **90% of data** is defined as unstructured. For the organizations that can get a handle on this, opportunities abound.

In addition, legacy systems inhibit companies from taking advantage of the rising interest in location-based services. By some estimates, between now and 2029, location intelligence will **experience a 4X growth rate** globally. For example, some estimates suggest that more than **36% of organizations** will deploy location intelligence software in 2023.

For companies looking to unlock location data as part of an overall enterprise modernization strategy, one of the challenges becomes: what's the most efficient and cost-effective way to bring geospatial tools and technology to the masses? Traditional GIS implementations involve departmental deployments that limit access to mapping tools, analysis, and intelligence.

Obsolete development and applications, rigid proprietary software, and extensive database systems of record—all built with significant investment—make it hard to move into modern-day environments. In addition, legacy systems typically don't adhere to the latest security standards, posing real threats to success.

Companies understand that to succeed in an ever-increasing digital economy, they need a modern environment with modern tools to bring context and insight into workflows, processes, products, and services. Yet many organizations can't afford a "rip and replace" model. The costs and downtime associated with swapping the old and installing the new all at once are too significant.

The answer: a scalable approach that takes advantage of blended open and proprietary software, flexible architectures, and strategic APIs that target gradual improvement. You can prioritize where to make the right kind of data accessible and when it's needed most.

Modernization challenges:

- Legacy systems and applications
- Complex IT infrastructure
- Costly data and applications
- Disparate databases and processes
- Poor user-driven designs

A scalable geospatial platform

A scalable geospatial strategy makes the most sense for nearly every modernization initiative. You can take an incremental approach while employing enterprise geospatial technology that connects to existing systems. As a result, you can progressively meet the data-driven demands of every department while at the same time providing a foundation to build and evolve with future needs.

The combination of location-based applications and intelligence empowers staff across the organization to make data-driven decisions using maps and location analytics. Intelligent integrations between your ERP, CRM, asset management, and other systems make mining data linked to previously siloed applications easier. You combine spatial tools and analytics that reveal patterns, identify hot spots, and give spatial context and meaning to operations, sales, marketing, fleet management, customer service, and more.

Well-documented APIs that connect legacy databases to modern geospatial systems accelerate time-to-value while reducing risk. In addition, modern GIS enables applications to be easily configured to manage resources, predict costs, and support workflows. It also facilitates adding third-party data services, such as satellite imagery, SAR, crowdsourced data, and other live data streams.

Companies that take an incremental platform approach can combine proprietary and open technology, data, and applications. Companies can use open-source technologies to develop configurable, low-cost applications that integrate with proprietary software. They can repurpose modules to give users a comparable experience across applications.

In addition, they can replace or upgrade compounds to create lightweight tools. Moreover, cloud-based capabilities aid in scalability and facilitate using pay-as-you-go or consumption-based cost model. This allows companies to prioritize specific areas of modernization to make gradual, affordable technology improvements that keep services running simultaneous to implementation.

Benefits of a scalable geospatial platform:

- An incremental approach to lower costs and risk
- Connected systems and applications
- Accelerated time-to-value
- Configurable, low-cost applications
- Efficient data delivery training

Design-driven development

From entrepreneurial startups to global brands, companies are delivering on consumer demands for location-based apps and intelligence. This includes designing elegant experiences that have maps and location analytics without burdening users with the requirement for GIS literacy.

To do this, organizations must ensure their target audience—internally and externally—trusts the information they see and consume. These users must make the decisions they want quickly and efficiently using a simple, clean, focused user experience (UX) and user interfaces (UI). Unfortunately, companies often lack internal resources to develop state-of-the-art UX/UI, including location services. And using proprietary GIS software templates lacks the customized design consumers want.

Customer-centric, design-driven development that supports business users and customers begins with a best-of-breed approach, ensuring that new technology is open, configurable, and leverages data stored in existing systems. You can use APIs to connect with existing disparate databases to leverage data investments that enrich your new applications.

Open-source development frameworks help companies create purpose-built applications that take advantage of proprietary software, such as Esri. Organizations can deploy interfaces on top of existing software to connect data and tools without constrained templates. This helps cultivate a seamless visual language and style guidelines that would otherwise be limited using just proprietary components.

As mobile devices have proliferated, user attention spans have cut from minutes to seconds. Companies must simplify user experiences so that the end user doesn't have to think about how to interact with data. Instead, they can simply "tap and swipe" to perform duties. Modern mobile solution development takes advantage of progressive experiences that deliver the data required to support essential workflows and drill into finer detail if needed.

Moreover, you can design APIs around mobile devices using progressive delivery. You enable efficient data delivery in increments instead of sending large chunks simultaneously, avoiding performance issues and improving experiences. Today's standards-based, open technology ensures investments last for years to come.

Benefits to design-driven development:

- Efficient maps and location services
- Customized applications
- A flexible, open, best-of-breed approach
- Elegant experiences
- Efficient data delivery

Data enrichment

Location technology can help companies enrich data. It allows them to bring in new sources of information and organize it around geography—whether it's a customer location, service territory, competitors, or market opportunities.

For example, many companies today are considering how climate change will affect business operations—employees, customers, and supply chains. But most of these organizations will not generate their climate data. Instead, suppose they can bring in relevant contextual data that enriches operational information. In that case, enriching data from outside sources would help them better understand how climate change and adaptation should be considered as part of their planning operations strategy.

A commodity reseller—coffee, for example—can analyze new locations to source coffee beans in drier and warmer climate; they can determine if new business decisions need to be made, such as whether they may need to replace contracts with producers. Likewise, major retailers can gain a greater understanding of supplying products customers want based on seasons and weather patterns, such as snow, rain, and wind.

To do this granular analysis, organizations need a modern platform that allows those different sources to be integrated and enriched. In addition, for many the time dimension remains an untapped resource. More people today produce real-time or streaming data available for analysis, including evaluating "time slices."

Commercial businesses can view spatial patterns of customer travel, purchasing habits, and foot traffic over time to generate more targeted and dynamic campaigns. Utilities can monitor the impacts of traffic on service delivery or maintaining infrastructure. Internet providers can take a data-driven approach to increase service to new communities growing outside typical urban centers. And healthcare providers can assess changing demographic patterns and plan their service locations so that it's near their customer base. The array of analyses spans industries and geographies.

Data governance

A key ingredient to data success, including enrichment, involves good data governance. Why? Because good governance cultivates trust. Staff and customers will use data they trust, and your business will get the most out of its data investments. Without it, your technology and data may miss the mark of intended use; or both could drift away from their original intended purpose. And your data investment will go wasted.

Proper data governance ensures long-term success and refinement. It begins in the planning stages, continues during implementation, and should extend well after launch. Done correctly, it will include the following:

- Documented and current priorities to specifically develop a technology plan
- Agreements among stakeholders that delineates user roles, goals, and timetables
- Well-defined and documented data pipelines and procedures
- Identification of existing data and systems that should remain
- Training and adoption activities, as well as feedback loops

The data and governance advantage:

- More data and lower costs
- Deeper analysis capabilities
- Increased map services value
- Wider use case development
- Continuous data monitoring and feedback

Capabilities for your organization and customers

A modern enterprise GIS delivers better business outcomes. Whether developing new products and services, enhancing networks, enabling a mobile workforce, or designing communities, geospatial technology brings a wealth of value to your organization's operations. In addition, you provide better tools for daily use, making your workforce more productive and your organization more successful.

Better data and analysis

Spatial analytics brings a unique geographic perspective for analysts to identify and model patterns and behavior. It allows users to incorporate 3rd party sources and services easily. As a result, companies can focus content on supporting core business functions. Using a best-of-breed technology, they can effectively and efficiently enrich data from proprietary and open sources without constraints. In addition, they can use geospatial features and components from multiple sources.

Deeper insights and reporting:

Companies can aggregate large quantitates of available data from free and proprietary sources to ask more questions and develop more specific and accurate answers. A modern GIS platform allows companies to develop applications and information products that support essential workflows and analysis. Data visualization, web services, and mobile applications help users analyze and report results anywhere, anytime, as needed.

More powerful applications

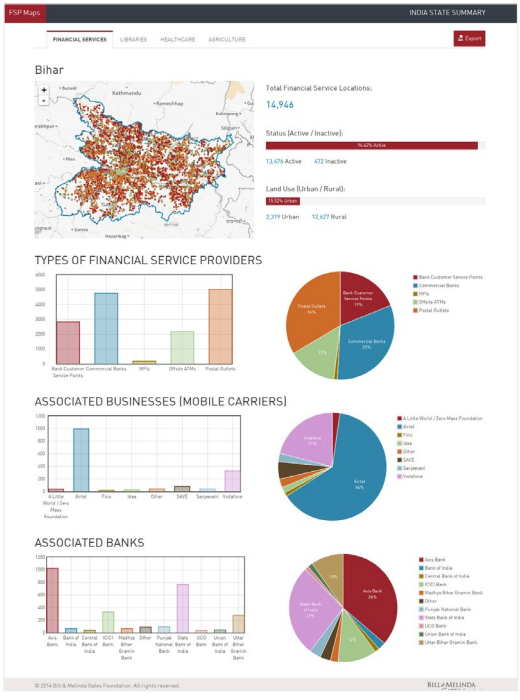
Open source combined with proprietary GIS delivers location-based products and services your customers want. In addition, as customers and vendors alike moved to more open software and platforms moved to the cloud to take advantage of things like autoscaling, organizations can take advantage of large and diverse data types from a broader array of sources. The result is greater flexibility, lower costs, and less risk for building robust applications.

Innovation-ready environments

Modern GIS works with the latest cutting-edge technology, from machine learning and AI to IoT, enhanced semantic search, integrated sensors, and more. Modern geospatial platforms can future-proof data and IT investments to adapt smart tools and innovate the enterprise environment. For example, companies can employ consumer tasks by scale, such as categorizing photos, improving search, or offering product suggestions. They can also train models to self-evaluate infrastructure and decide when to operate, maintain, and fix assets.

Consumer-driven, mobile-first experiences

Modern geospatial platforms ensure users engage with work technology as intuitive as the apps they grew up with. As most internet access transitioned from desktop to mobile devices, priorities shifted to designing mobile-first experiences that consider smaller screens, consume more content, perform functions, and operate anywhere and anytime. This means taking traditional GIS functions and simplifying them in a way that presents map-based data and functionality to fit the typical mobile form factor and the user's shorter attention span.

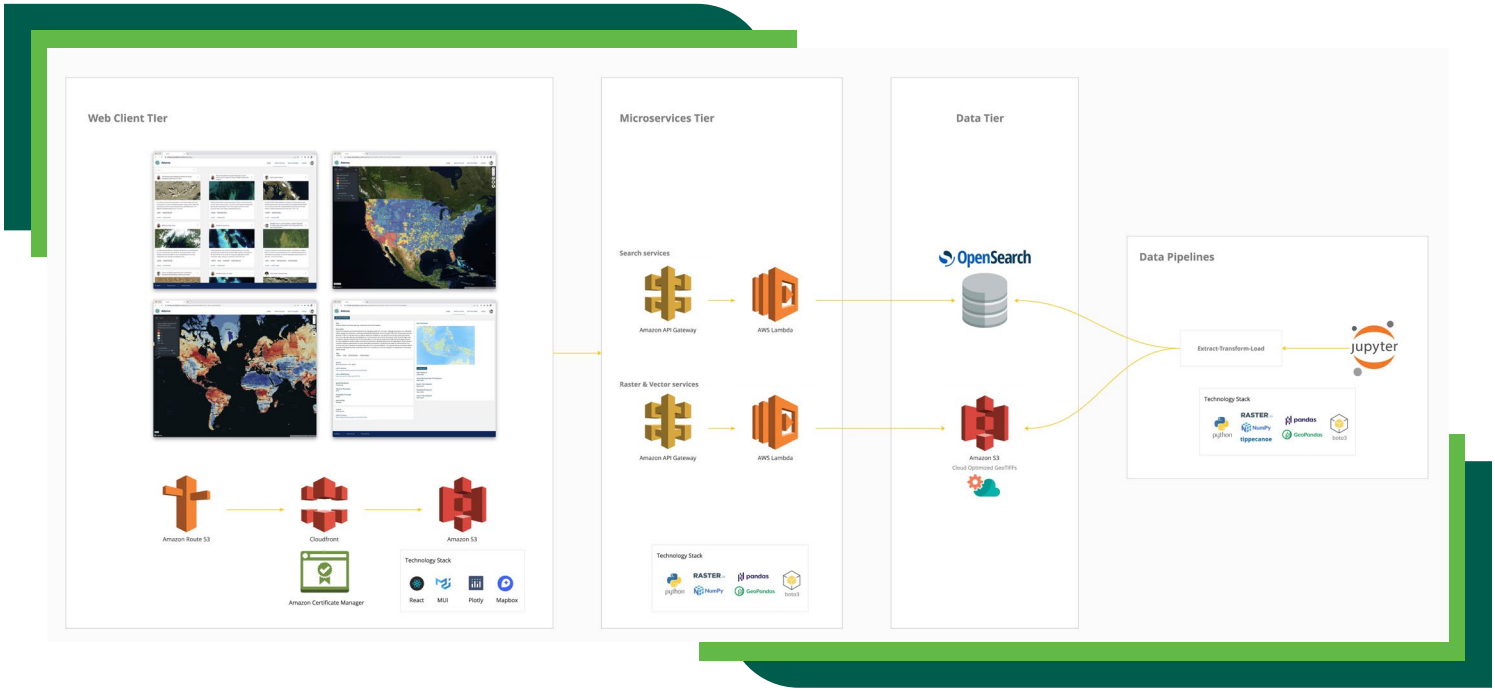


How to begin your geospatial journey

For companies looking to modernize their geospatial technology—or to implement their first enterprise geospatial solution—begin by asking some foundational questions. Understanding your current environment, including data, designs, and technology, will help you develop a plan tailored to your needs. You'll want to ask stakeholders throughout the organization, including business leaders, IT staff, and front-line users as possible.

Start by asking:

1. Do users trust the data their data?
2. Do you know the number of users you have?
3. When did you last update software, applications, and data?
4. Do you know how much your data costs?
5. How does your data compare to competitors?
6. Are your web apps responsive and mobile-ready?
7. Do you use APIs?
8. Does performance degrade with more users?
9. Do you follow the principles of good experience in apps?
10. Do you have a feedback mechanism?

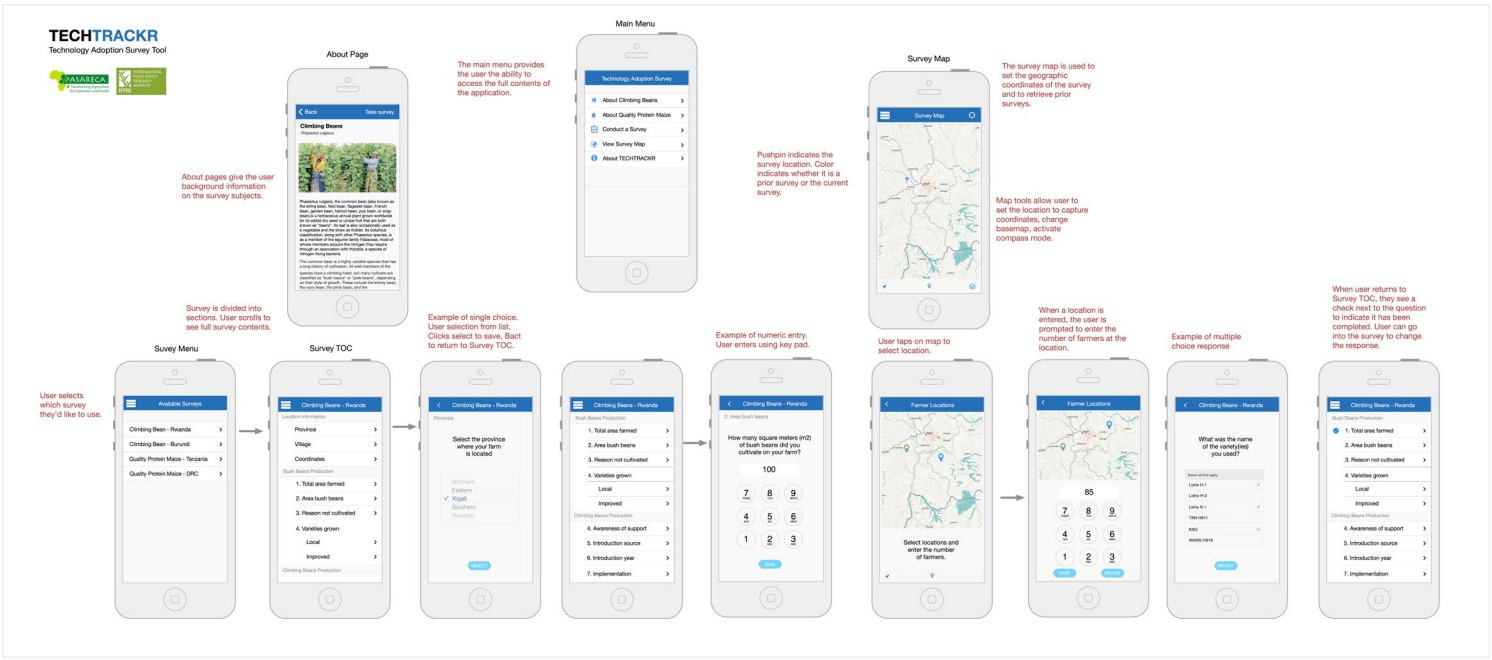


Modernize to reduce risk and ensure success

For companies looking to gain a competitive advantage with a modern geospatial enterprise, the solution may be easier than you think. You can remove the complexity and inefficiency of legacy systems with an incremental approach to geospatial implementation.

Using proprietary and open GIS software to build your enterprise gives you more location-based data, tools, and analysis options than ever. In addition, you can employ intelligent integrations using APIs to connect old and new databases that maximize existing investments as part of your overall strategy. And with lightweight applications built with user-driven designs, you can create intuitive experiences that ensure adoption and usage, whether for internal staff or external customers. Get ready to set a course for long-term return on value.

Ready to learn more about using modern geospatial throughout your enterprise? Reach out to **Locana** to explore the options available to you.



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