Leveraged Engineering:
Partnering for Success at Cloud Speed

A research report prepared by:

SAUGATUCK TECHNOLOGY

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WIPRO
Applying Thought

TABLE OF CONTENTS

TABLE OF FIGURES

About this Report

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About Saugatuck Technology

Saugatuck Technology, Inc., provides subscription research and management consulting services focused on the key market trends and disruptive technologies driving change in enterprise IT, including Software-as-a-Service (SaaS), Cloud Infrastructure, Social Computing, Mobility and Advanced Analytics, among others. Founded in 1999, Saugatuck is headquartered in Westport, CT, with offices in Falmouth MA, Santa Clara CA, and in Frankfurt, Germany. For more information, please visit www.saugatucktechnology.com or call +1.203.454.3900.

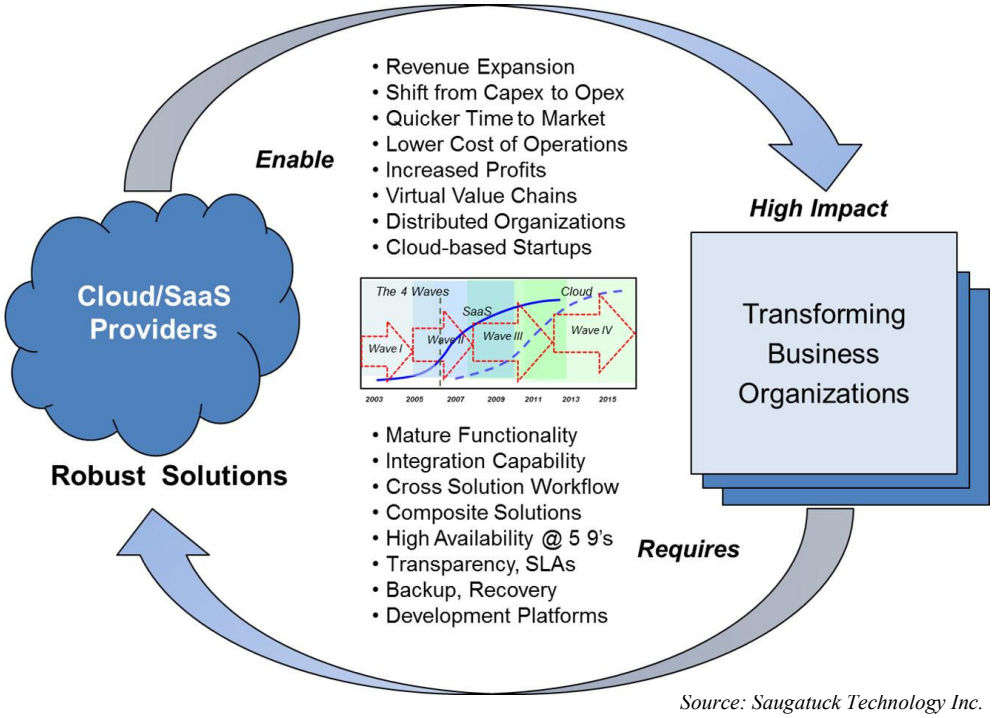
Cloud. Mobility. Social media and collaboration. Big Data. Business analytics. As a research and advisory firm supporting enterprise IT and ISVs, Saugatuck Technology calls these the "Big Four" IT disruptors. They are common within all types and sizes of organizations, they are widely acquired and used, and they contribute more to the costs and complexities of IT than most previous technology or business disruptors, for ISVs as well as for IT organizations. Saugatuck research shows clearly that the costs and complexities of the Big Four affect ISVs at least as much as they do enterprise IT buyers and users.

While the increasingly wide range of readily-acquired, quickly-deployed solutions has raised the costs of integrating and managing IT, it has also raised users' expectations as to what is possible. For ISVs, this means that the need to innovate and integrate has become paramount—affecting ISVs' business models and technology strategies to the core.

But ISVs face more than business and technology challenges; they also face a "need for speed" as users' appetites for change and improvement accelerate. Saugatuck coined the term "***Cloud speed***" to describe this environment, in which IT providers of all kinds need to frequently build, develop, and re-invent themselves and their offerings just to keep pace with market growth and demand shifts.

The term derived from the endless cycles of innovation and change that Saugatuck first identified as part of our ongoing Cloud IT market research in 2006. User organizations adopt Cloud-based IT solutions and utilize them to improve organizational productivity and efficiencies, leading to more innovative ways of doing business. Their expectations of IT providers (Cloud-based and otherwise) change and grow to meet their own changing needs. IT providers then must adapt and innovate to meet users' demands in a profitable manner. This enables more new and innovative solutions, which in turn enable and drive more business innovation by users, and the cycle continues – often at an accelerating pace. Figure 1 summarizes Saugatuck's "Cloud cycle" of endless business and technological innovation.

Figure 1: Saugatuck's "Endless Innovation" Cloud Business Cycle



Source: Saugatuck Technology Inc.

ISVs are particularly affected by innovation at Cloud speed, for several critical reasons. Saugatuck's ongoing work with ISVs indicates that, due to the rapid and widespread adoption of software-as-a-service (SaaS), *it has become normal for ISVs to deliver completely new releases every nine to 12 months, and to deliver significant upgrades even more frequently.* Our research also suggests that ISVs that do not meet such expectations are being left behind by their own clients.

But for ISVs, "Cloud speed" is more than increasingly-rapid cycles of development and release. It also includes:

- Continuous innovation and improvement of technologies, offerings, and ISV business model and management; and
- Continuous Ecosystem change, with rapid and frequent shifts in the types, numbers and influence of customers, channel partners, suppliers, and ecosystem Master Brands – the firms that dominate operating systems, development platforms, and more.

ISVs tend to be built around specific technologies, architectures, and methodologies. These have all been refined, sometimes over the course of years and decades, to meet long-standing market, partner, and customer needs.

But in a Cloud-driven, endless-innovation marketplace, traditional technologies, architectures, and methodologies can be as much a liability as an asset. They require an amount of time much longer than what the Cloud-driven marketplace is conditioning users to accept.

It also can take significant amounts of time to change, to re-engineer an ISV's established technologies, architectures, and methodologies in order to be able to compete effectively. Of the more than 300 ISVs that Saugatuck has worked with on Cloud transitions, *the typical time required to re-engineer a single software offering from traditional technologies, architectures, and methodologies to being Cloud-capable, let alone Cloud-optimized, ranges between 18 and 36 months.*

Once the offerings are ready for the Cloud-speed marketplace, ISVs' same traditional technologies, architectures, and methodologies tend to enforce relatively slow responses to market changes and customer or partner requests. When the rest of the market is moving at Cloud speed, long time frames for engineering, development, and revision or updating just are not acceptable.

The Root of the Problem

Traditional and established methods, technologies, and business models have evolved to ***withstand*** most disruptions, not to ***adapt*** to them. They are rigid in order to enable quality, not speed. ISVs' technological, engineering, and business practices, and ecosystems, have been built around them and refined through time and repetition. They are, in more ways than one, foundational to the ISV.

Today's marketplace, and tomorrow's, requires ISVs to be able to accomplish previously unknown combinations of speed and quality, while innovating technologically and in business. New technologies and approaches must be acquired and applied, while new business models and practices must be developed and adapted. These important, critical tasks take time and money – too much time and money when approached in traditional ways.

For example: Traditionally, to acquire new skills, ISVs have hired technology leaders and experts, and/or used training to build on top of existing skills and staff. To reduce the amount of time required, ISVs hire full-time employees (FTEs) and/or contract out for specific skills.

Hiring FTEs is expensive, but allows the ISV to retain useful/needed skillsets and experience in-house and to leverage it into staff training, ecosystem evangelism, and marketing/sales support.

Contracting out for specific skills can be much less expensive on a per-need basis, but does not allow the span of control, leverage, and integration of the skillsets and experience that hiring enables.

Neither approach lends itself to innovation. Both types of resources tend to be focused on specific skillsets and experiences that made them attractive to the ISV in the first place. Most can be trained and provided with necessary experience in new technologies and methodologies, but that requires expensive time – money and time which traditional ISVs these days have less and less of.

In a marketplace where traditional methods are inadequate to the need, new approaches are called for. But what should they be; and how should ISVs manage them for their greatest profit?

A Need for New Thinking, New Approaches

Outsourcing for necessary skills and technologies is nothing new in the IT world. On the customer side, almost any aspect of IT can be and often is outsourced today, including the some of the most critical types of IT.

Likewise, ISVs have been outsourcing for specific, non-core skills and services for decades. The world is full of third-party development firms, testing providers, QA professionals, and others. And in many emergent Cloud-enabled IT markets, a "software company" is more likely to be an assemblage of contracted providers than a hierarchical traditional organization. But such firms have the luxury, as it were, of starting out nimble and agile, comfortable with and using the most current without the challenges inherent in traditional technologies, architectures, and methodologies, along with traditional ISV business and technological organizational structures. But these new, smaller, more agile firms also tend to not have extensive product lines or established traditional software offerings and user bases in the marketplace.

So if you are responsible for an established ISV's technological and business strategy and resources, what can you do? What type(s) of business and technological approaches are needed to succeed in such an emergent, rapidly-evolving set of markets/competitive and technological landscapes?

As noted above, most ISVs are familiar with outsourcing various aspects of their business. So why aren't they adapting their outsourcing practices to meet and exceed Cloud-speed market demands?

To take advantage of outsourcing in a Cloud-speed marketplace, Saugatuck's research and analysis indicate that two things are needed: New ways of thinking by ISVs when it comes to outsourcing; and new ways of considering and engaging partners for outsourcing.

Why new ways of thinking? Unfortunately, in Saugatuck's experience, ISVs tend to be rather narrowly focused when it comes to outsourcing, especially when it

comes to outsourcing anything related to their core technological property. Development and testing methodologies and processes have been built over years and decades, and have proven themselves adequate to prevailing customer and partner ecosystem needs. Architecture and engineering have therefore come to be seen as core, critical competencies that need to be protected and not changed. *In short, ISVs tend to be most willing to outsource specific tasks, technologies, and other needs that are outside of what has always been their core business.*

Our most recent discussions with ISVs, especially in the US, indicate that at least 25 percent are at least considering the outsourcing of what used to be considered sacred capabilities – i.e., core architecture, engineering, and design, along with development methods, testing practices, *et al*. These forward-thinking ISVs see not only how they might fall behind Cloud-enabled competitors; they see how long it will take, and how costly it will be, to catch up and compete.

Why news ways of considering and engaging? As with traditional ISV technologies, architectures, and methodologies, traditional approaches to outsourcing tend to be inadequate to the tasks when it comes to enabling an ISV to build and grow at Cloud speed. Traditional providers and methods have focused on skillsets, technologies, architectures, methodologies, languages, interfaces, as well as on specific vertical markets, regional or country markets, business models, and so on. The service and output are rarely integrative; they are rarely comprehensive; and the entire range of needed resources rarely is available from a single provider. But it's not just the providers. ISVs in the past have gone out looking for a technology, looking for expertise in a specific area. Their approach to outsourcing is rarely holistic.

Finally, new technologies, architectures, and methodologies are only part of the mix required to succeed at Cloud speed. When faced with new types of competition, emergent technologies, changing buying centers, new forms and sources of revenue, and similar fundamental disruptors, ISVs need to partner with outsourcing providers that deliver innovation in what they do and how they work, and that can enable innovation by and within the ISV and its offerings.

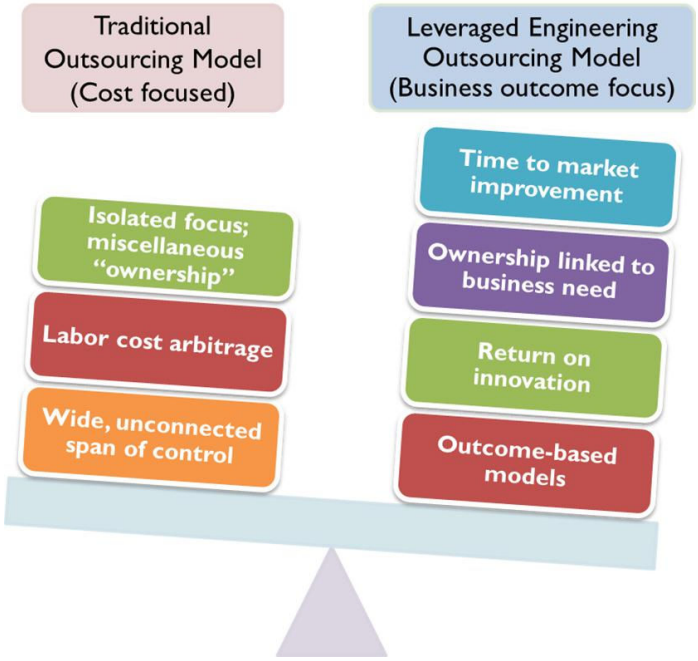
Look for a Leveraged Approach

Today's Cloud-speed, constant-innovation marketplace requires an integrative foundational approach that enables acceleration while filling in and even rebuilding core business and technological frameworks. Traditional hiring and contracting practices can't fill enough gaps deeply or quickly enough. *ISVs need to leverage the abilities of third-party partners into ISVs' own core models and operations*.

Every outsourcing firm offers some range of services and capabilities. Saugatuck's preference for our ISV clients is to work with partners that can integrate a customizable "suite" of capabilities into solution-based approaches that fit the ISVs' specific needs, and which can be cost-effectively leveraged to accelerate ISVs' time-to-market while enabling strategic business and technological changes as needed.

Leveraging a partner's resources into the ISV in this manner enables the ISV to drastically reduce the time required to re-think, re-build, or re-engineer itself along with its offerings. This frees ISVs from the need to play "catch up" with established and newer competitors. The ISV also gains greater ability to innovate over time at lower cost. Figure 2 compares the traditional contracting/outsourcing versus this more leveraged approach

Figure 2: Traditional ISV Outsourcing vs. Leveraged Engineering



Source: Saugatuck Technology Inc. from Wipro Technologies

The "leverage" comes from the partner's ability to combine and deliver ISV-specific combinations of skills, technologies, resources, and knowledge to pull the ISV into competitive advantage faster and more thoroughly. Saugatuck sees a variety of third-party outsourcing approaches to this, called "jump-starting," "spring-boarding" and "platforming."

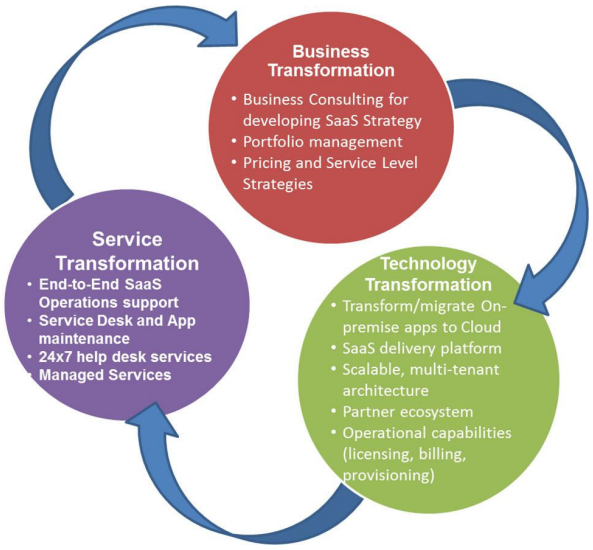
The problem is that most such approaches focus on the re-engineering of ISV offerings to make them more Cloud-enabled. Saugatuck sees this as only one part of a critical "makeover" that ISVs need for competitive advantage in today's constant -innovation marketplace.

For most ISVs, we prefer a holistic, customized, and scalable-yet cost-effective approach similar to that of Wipro Technologies. Wipro's "leveraged engineering" approach is tied to ISV business needs, rather than the traditional approach of outsourcing to specific technology needs. It recognizes that more than just the technology of the ISV needs to change in order to compete more effectively; the ISV's business needs must be addressed as well, and in a manner that integrates the two and scales up or down as needs change. Figure 3 on the following page provides an illustration of how leveraged engineering can be applied for the benefit of an ISV transitioning to a SaaS/Cloud business and technology model.

It's easy to see not only the potential (and typical) scope and scale of leveraged engineering capabilities and outcomes. We can also see how disruption, change, development and enablement in one aspect of an ISV influences and leads to similar, and sometimes greater, changes elsewhere within the same ISV. Thus we can readily understand the need for, and benefits of, a holistic approach tied to overall ISV business strategy and goals.

In fact, when transitioning to any new marketplace, an ISV's entire business strategy needs to adapt and shift, starting with *Portfolio Management* (i.e., do we have the right technologies, offerings, and capabilities to compete and lead?); which leads to *Product Strategy* consideration and change (i.e., what are the best/most suitable audiences, markets, and ecosystem targets?); which in turn leads to *Development and Delivery* change (i.e., how do we efficiently and effectively deliver what's needed?); and finally to *Lifecycle Management* changes (i.e., are we positioned to innovate on an ongoing basis?).

Figure 3: Leveraging Benefits Across the ISV – a SaaS Case



Source: Saugatuck Technology Inc. from Wipro Technologies

Real-World Leveraged Engineering

Not every leveraged engineering engagement needs to be integrative with every possible aspect of an ISV's business, at least not in the beginning. Many engagements that we see today focus on changes and capabilities that will be leveraged more in future to improve an ISV's offerings and business. Several of these engagements are occurring within the largest ISVs in the world, including Hewlett-Packard and CA Technologies.

Hewlett-Packard utilizes leveraged engineering services from Wipro Technologies as part of its ongoing research and development for HP's service management portfolio. For more than a year now, HP's Service Manager software group has been partnering with Wipro for help in innovation and development that enable HP to deliver new and more innovative "IT management-in-a-box" types of offerings.

HP leverages Wipro's agile development, IT service management expertise, implementation skills and capabilities, and customer IT environment knowledge to develop and deliver cost-effective IT service management solutions. "We wanted and needed a partner with more than the traditional capabilities, a partner able to help us to innovate and deliver more innovation. To be more innovative and serve our markets more effectively, we needed to move away from traditional sourcing and toward a more integrative partnership with a provider such as Wipro," states Jean-Marc Bronoel, Senior Director of Strategy & Service Management R&D at Hewlett-Packard.

"Wipro brings everything to the table as we need it: project management, all the required resources, the knowledge needed, and the flexibility needed," continues Bronoel. "There are no gaps; we are able to leverage the entire range of engineering knowledge and skills that are needed as we need them. If we need to, we can outsource the complete scope of work regardless of the work to be done."

Based on the high quality of work and flexibility that they have enjoyed with Wipro, Bronoel expects a greater role and expanded use of leveraged engineering as HP develops and rolls out more IT service management offerings, including potential future product development with HP. "We prefer to partner in some areas, and prefer to retain other areas in-house. Leveraged engineering like this enables us to be more flexible in the areas that we choose to partner in," he adds.

CA Technologies (CA; formerly Computer Associates, Inc.) is a Fortune 500 company and one of the largest independent software corporations in the world. Based in New York, the company maintains development and service centers worldwide to develop and deliver software used primarily in large, complex IT environments. In 2010, CA announced a significant Cloud IT management strategy, including the CA Cloud-Connected Management Suite of offerings.

Manmohan Jain is a Vice President at CA Technologies in Hyderabad India, leading software development teams responsible for enhancing and improving CA's Cloud-based (and Cloud-enabling) offerings, including the AppLogic Cloud platform software from CA's 3Tera acquisition. The AppLogic software is promoted as a turnkey Cloud management and virtualization system that quickly enables clusters of servers to become *de facto* IT Clouds. According to Jain, the demands of customers moving at Cloud speed have CA working diligently and rapidly to enhance and expand the capabilities of the AppLogic Cloud platform line.

"Our key requirement right now is to scale up the product to meet the needs of managed service providers and large enterprises wishing to enable their own Clouds," according to Jain. CA is leveraging engineering services from Wipro to ramp up and expand performance, stress, and scalability testing of the AppLogic software. "We need flexible and expandable scale as well as very comprehensive testing capabilities," he explains. CA has its own teams providing software testing, QA and related capabilities, but the pressure of ramping up and expanding the company's Cloud software platform in a very short time drove the company to partner with Wipro and leverage Wipro's software engineering proficiencies.

"We needed a combination of speed, skillsets, quality and scalability in a time period of weeks rather than months," explains Jain. "Leveraging Wipro's resources enabled us to scale from teams of 3 to teams of 30, for example, immediately while maintaining our high standards of quality. We had a unique mix of technology and architectural knowledge needs that we were able to fulfill and exceed in very rapid time." As with many leveraged engineering engagements, success within the initial scope has expanded the relationship and range of services being leveraged into CA's operations. CA is beginning to leverage Wipro's testing automation and Java development skills and capabilities to improve overall productivity.

According to Jain, the testing automation framework has been designed and is being fleshed out, and is expected to be ramped up shortly.

"Leveraged engineering in this manner definitely enables us to move at Cloud speed," Jain concludes.

SUMMING UP: THE NEED FOR LEVERAGE

Cloud, Mobility, Social Media and Collaboration, and Big Data and Business Analytics drive and symbolize the range, scale, and complexities of software development and use in the Cloud era. Combined with the phenomenon and pace of "Cloud speed"-style innovation, these four disruptors drive ISVs' need to innovate and integrate, as users' expectations regarding solution capabilities and their own ability to conduct business increase.

The costs in money and time to grow, adapt, re-invent, and innovate at such an increasing pace are spiraling beyond the ability of even the largest ISVs. To compete, ISVs need outsourcing and partner(s) that can combine, integrate, and leverage business and technology engineering that enable Cloud-speed development, delivery, and operations.

Such an approach must be linked to business strategies and objectives. This enables ownership and commitment by the ISV and by the leveraged engineering partner that helps to measure and ensure success according to business goals. That's very important for ISVs that are struggling to understand and adapt to changing market pressures, conditions, and opportunities.

We still find many ISVs trying to go it alone, or following traditional contracting/outsourcing approaches. These may not fail, *but they will cost more than a leveraged partner approach in time and money spent:*

- Saugatuck interviews with ISVs indicate that traditional approaches to just architecting or re-architecting a Cloud/SaaS offering cost between five and 10 percent of an ISV's total revenues over the time required for development, assuming that the required skills and technologies are in place. *That percentage can double when new skills and technologies are required.*
- Business re-engineering can require another five to 10 percent of ISV annual revenues—more if done badly.
- Both the above require an average of 24 months, and divert ISV resources from maintaining and improving ongoing operations for at least that long.
- Time and money required for both also tend to escalate rapidly, because ISVs tend to pursue and manage each technology and business change individually, rather than leveraging and integrating them into a foundational approach.
- *The net for ISVs following the traditional path to innovation and improvement*: Two to four years of time, at a cost of between 10 and 30 percent of total revenue during that time.

At the bottom line, no ISV can go it alone in the new Cloud era. Every ISV will need to partner for several different aspects of business and technology change, and those aspects will change over time. ISVs that don't, or can't, partner to innovate and re-engineer themselves and their offerings will fall farther and farther behind the market leaders.

SPONSOR PERSPECTIVE

The software and technology space is constantly evolving and has moved far beyond "outsourcing" even as ISVs grapple to cope with new business needs and fast changing consumer demands. Some of the major technological changes seen in the market today are Software-as-a-Service (SaaS), cloud computing, mobility, analytics and social media. ISVs need to continuously innovate and bring the products to the market faster than ever in an increasingly cut-throat marketplace. Smaller ISVs are much more nimble and are able to channelize their efforts towards quick development and engineering. They are also more likely to release quality software products to market quickly and gain early mover advantage. The 'race to innovation and time to market' has begun and smaller ISVs are better prepared thanks to their size, compared to the larger ISVs.

The significance of innovation is getting even more evident in the current, dynamic eco-system where ISVs are continually exposed to new business models such as SaaS/ Cloud. The emergence of the Cloud model has resulted in a major metamorphosis in the way ISVs execute their businesses - be it technological, service, cultural or organizational functions. However, most ISVs, irrespective of their size, do not have the necessary expertise needed to 'win the go-to-market game', and require an experienced partner to enable this advantage.

Wipro's extensive experience in product engineering has enabled us to introduce the concept of leveraged engineering by combining technological advances with new business models. The focus of leveraged engineering is based on outcomes such as co-innovation and faster time to market, rather than just costs. We believe that the most appropriate means of engaging with our customers is by co-innovating with them. . We partner with ISVs and enable them to accelerate their product lifecycles, and hence get products to market faster.

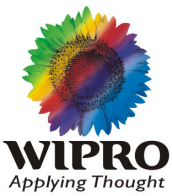
We have a broad range of expertise across areas that include recommendations on appropriate pricing, sales model, data security, multi-tenancy etc. We help our customers understand new business model like SaaS/Cloud wherein we create a complete roadmap and then build, deploy and manage the software infrastructure for them.

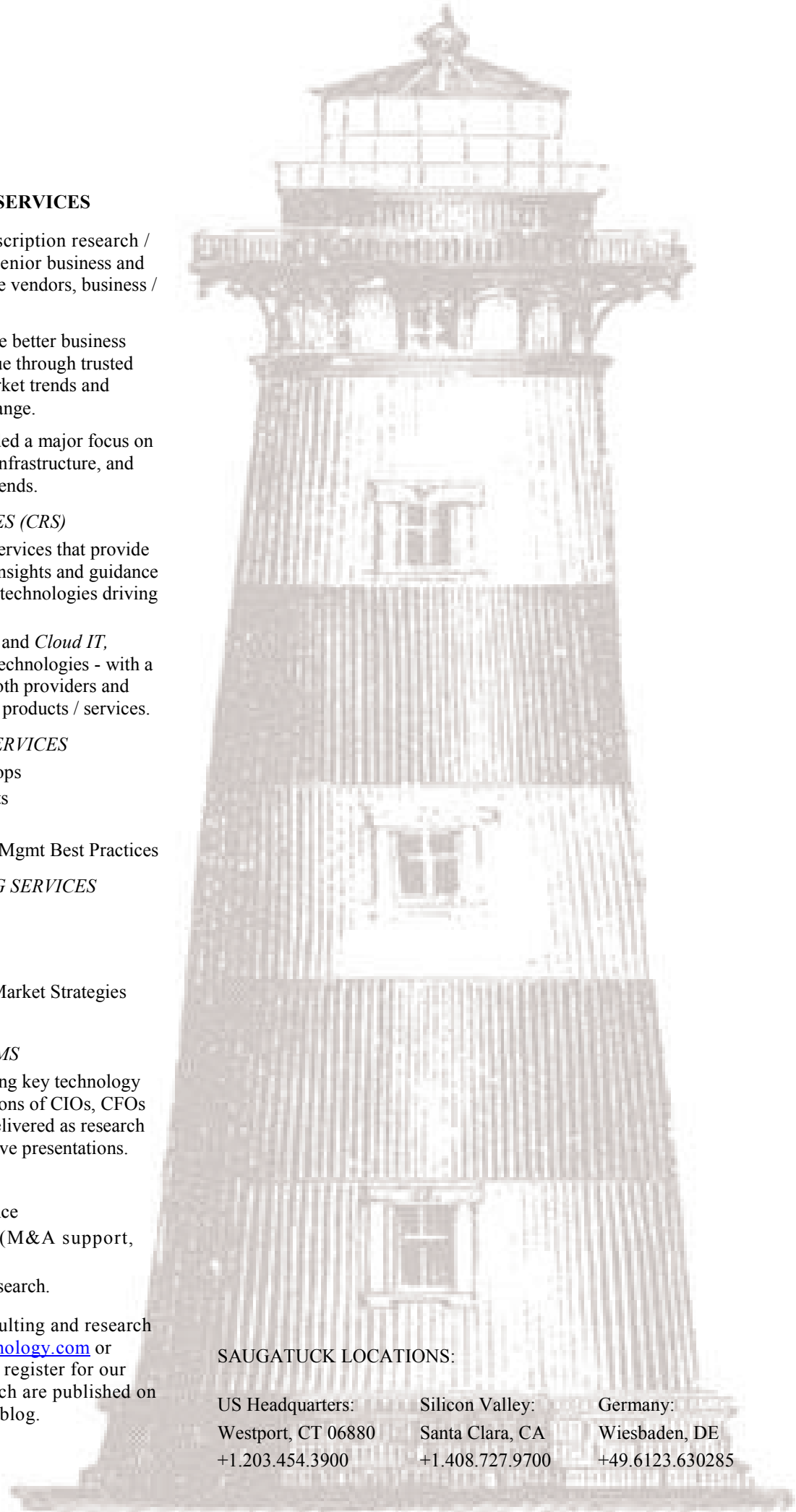
Over the years, we have helped several of our customers do business better through co-innovation and bringing products to the marker faster than ever resulting in profitable revenue models. While the original motive behind outsourcing was cost reduction, the concept of leveraged engineering for ISVs has shifted to 'outcomes'- which is exactly what we deliver.

About Wipro Technologies

Wipro Technologies, the global IT business of Wipro Limited (NYSE:WIT) is a leading Information Technology, Consulting and Outsourcing company, that delivers solutions to enable its clients to do business better. Wipro Technologies delivers winning business outcomes through its deep industry experience and a 360 degree view of "Business through Technology" – helping clients create successful and adaptive businesses. A company recognized globally for its comprehensive portfolio of services, a practitioner's approach to delivering innovation and an organization wide commitment to sustainability, Wipro Technologies has over 130,000 employees and clients across 54 countries.

For more information please contact Sawan Deswal, Sr. Practice Manager – Cloud Computing Services & Solutions -Wipro at sawan.deswal@wipro.com. To learn more about Wipro's complete portfolio of SaaS and Cloud solutions visit http://www.wipro.com/industries/computer-software-solutions/wipro-comprehensive-cloud-services-for-isvs.aspx.





SAUGATUCK OFFERINGS AND SERVICES

Saugatuck Technology provides subscription research / advisory and consulting services to senior business and IT executives, technology and software vendors, business / IT services providers, and investors.

Our Mission is to help our clients make better business decisions and create new business value through trusted and objective insights into the key market trends and emerging technologies driving real change.

Over the last few years, this has included a major focus on Software-as-a-Service (SaaS), Cloud Infrastructure, and Social Computing, among other key trends.

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- Subscription research / advisory services that provide independent / unbiased analysis, insights and guidance into the most important emerging technologies driving change in business computing.
- We are experts in *Cloud Business* and *Cloud IT,* among other key market trends / technologies - with a balanced view that is valued by both providers and consumers of technology-enabled products / services.

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- Opportunity Analysis
- Positioning / Messaging / Go-to-Market Strategies
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