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Digital Business

Modernizing the Insurance Value Chain: Top Three Digital Imperatives

As nontraditional companies enter the insurance scene and insurtechs launch novel products, incumbents need to accelerate innovation and differentiate the customer journey to remain in the game. Here are three strategies to achieve these goals, with a brief look at a few companies well on their way.

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To compete successfully in this new landscape, insurance companies are taking a fresh look at the value chain — including products, distribution methods and service models — through a digital lens.

Executive Summary

A massive upheaval in the insurance industry is changing the rules of competition. Incumbents face mounting threats from nontraditional players, such as Google[1] and Amazon,[2, 3] which are investing in highly targeted and digitally focused start-ups. Insurtech, which leverages artificial intelligence (AI), machine learning and the Internet of Things (IoT), has given birth to a new class of offerings. Policies can now reflect personal driving habits and wearables data, and IoT sensors can help prevent loss by monitoring environmental conditions like humidity and temperature.

To compete successfully in this new landscape, insurance companies are taking a fresh look at the value chain — including products, distribution methods and service models — through a digital lens. In our work with insurers around the world, the three most common goals for software engineering, also referred to as digital engineering, are to:

- **Gain first-mover advantage.** To be first to market, insurance companies need to anticipate customer desires for products and experiences before those desires are even expressed. They also need the right tools, processes and infrastructure to quickly convert these customer insights into products.
- **Reduce legacy IT costs to fund innovation.** Reducing the budget for data-center refreshes and legacy-application maintenance frees more funds for new product development.
- **Grow revenue by differentiating the customer journey.** Customers prefer insurers that make it easy to do business – for example, by issuing policies and paying claims within minutes and making relevant, personalized offers at the right time.

This white paper explores how to achieve these three imperatives through digital engineering and highlights a few examples of progress.

GOAL #1: Gain first-mover advantage

The first company to introduce an appealing product gains a potentially sustainable competitive advantage.

Examples of recent innovations:

- Rideshare insurance that allows drivers to toggle between rideshare coverage and personal coverage.[5]
- Life insurance products that provide discounts to customers who wear activity monitors and that use connected learning to educate customers on healthy lifestyles.[6]
- The use of data from wearables and connected learning to reduce repeat workers' compensation claims by ensuring policyholders receive the proper rehabilitation to return to work safely.
- The deployment of home monitoring to prevent loss, by including provisions for temperature sensors that detect freezing pipes or fires in the absence of smoke, and floor-water sensors for early flood and leak detection.

To gain a first-mover advantage, insurers need two capabilities:

- They must identify unmet customer needs to guide product planning.
- They need to swiftly adapt existing products to address market forces. For example, they could introduce a mobile app or modify reports to meet new regulatory requirements.

☑ Recommendations

- **Apply human science to learn how customers would like to access your product, and identify any existing gaps in your current offerings.** Use this insight to design new products or features that close the gap and better align your offers or services.
- **Build what will differentiate; buy the rest.** To support the buy vs. build decision, determine the value chain components that differentiate your offering (see Figure 1). For example, a differentiator for an auto policy might be the ability for drivers to toggle between rideshare and personal insurance, a claims management process that uses straight-through processing (STP) for faster settlements, or direct-to-consumer sales through an exchange, marketplace or aggregator.
- **Modernize the product architecture.** Deconstruct monolithic applications into microservices that can be swiftly snapped together to introduce and distribute new products through new channels. Also use microservices to build modern front ends to legacy applications, thus improving the experience for customers and agents.

Insurance value chain

Modern digital engineering can provide a competitive advantage on any or all parts of the value chain.

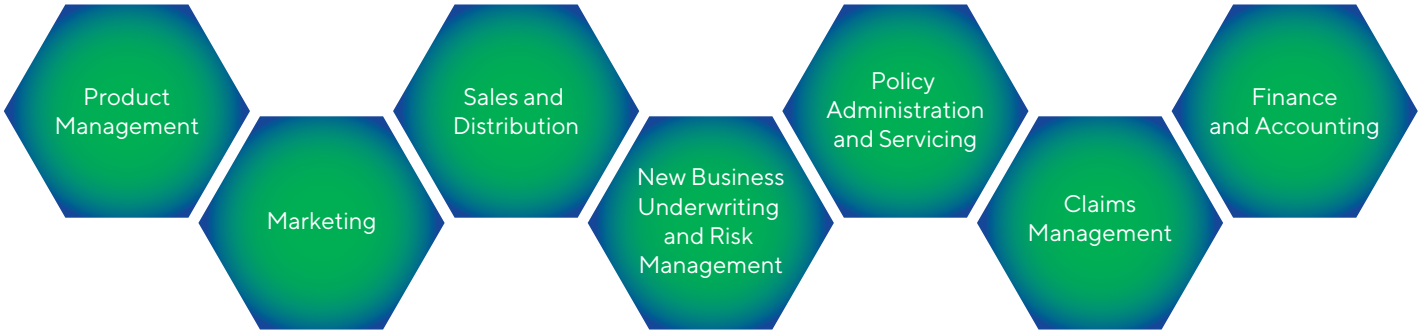
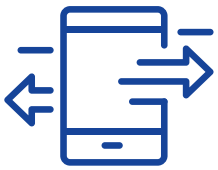


Figure 1



Real-world engagement: P&C insurer modernizes legacy application to accelerate new feature introduction and improve the user experience

- **Challenge:** A leading property and casualty insurer wanted to modernize an outdated quote-to-bind application for its primary line of business. The insurer sought to add mobile access, increase performance and reliability, integrate the app with legacy systems and accommodate its future policy admin platform implementation.
- **Solution:** Within a year, we rebuilt the application with a cloud-native architecture. We rolled it out across multiple U.S. states using a platform as a service (PaaS) on cloud infrastructure. The technologies we used to meet the insurer's performance goals included an asynchronous architecture, transient database and caching. To accelerate speed-to-market, we employed reusable microservices and business rules, simplified the user interface and put in place an Agile release cycle.
- **Outcomes:**
  - 50% shorter release cycles and new feature introductions.
  - 80% faster performance for quote-to-bind.

Real-world engagement: Life insurer reaches out to millennials with product testing

- **Challenge:** The life insurance industry is stagnant; the industry faces product commoditization and a lack of relevance with younger customers. A global insurer approached us to help develop new life insurance products that will drive adoption from their toughest cohort of potential buyers.
- **Solution:** Starting with a foresight lens, our team discovered a market opportunity for personalized, flexible coverage. This opportunity was dissected and presented to customers to understand the nuances of protection and risk. The resulting insights spurred ideation, and the team was able to develop a portfolio of new product concepts.
- **Outcomes:** Product concepts were developed into preliminary prototypes for consumer testing to understand market desirability. The client has currently reengaged us to develop the supporting customer experience, business infrastructure/blueprint and roadmap to help realize the prioritized concepts.

GOAL #2: Reduce legacy IT costs to fund innovation

The high cost of legacy IT, including infrastructure, application maintenance and upgrades, can starve innovation.

Moving applications to the cloud frees funds by shifting capital expense for data-center upgrades to a predictable operational expense. Application maintenance costs drop when insurance companies re-factor monolithic applications into modular microservices. To add a new feature, developers can quickly update just the affected microservices instead of modifying the entire application.

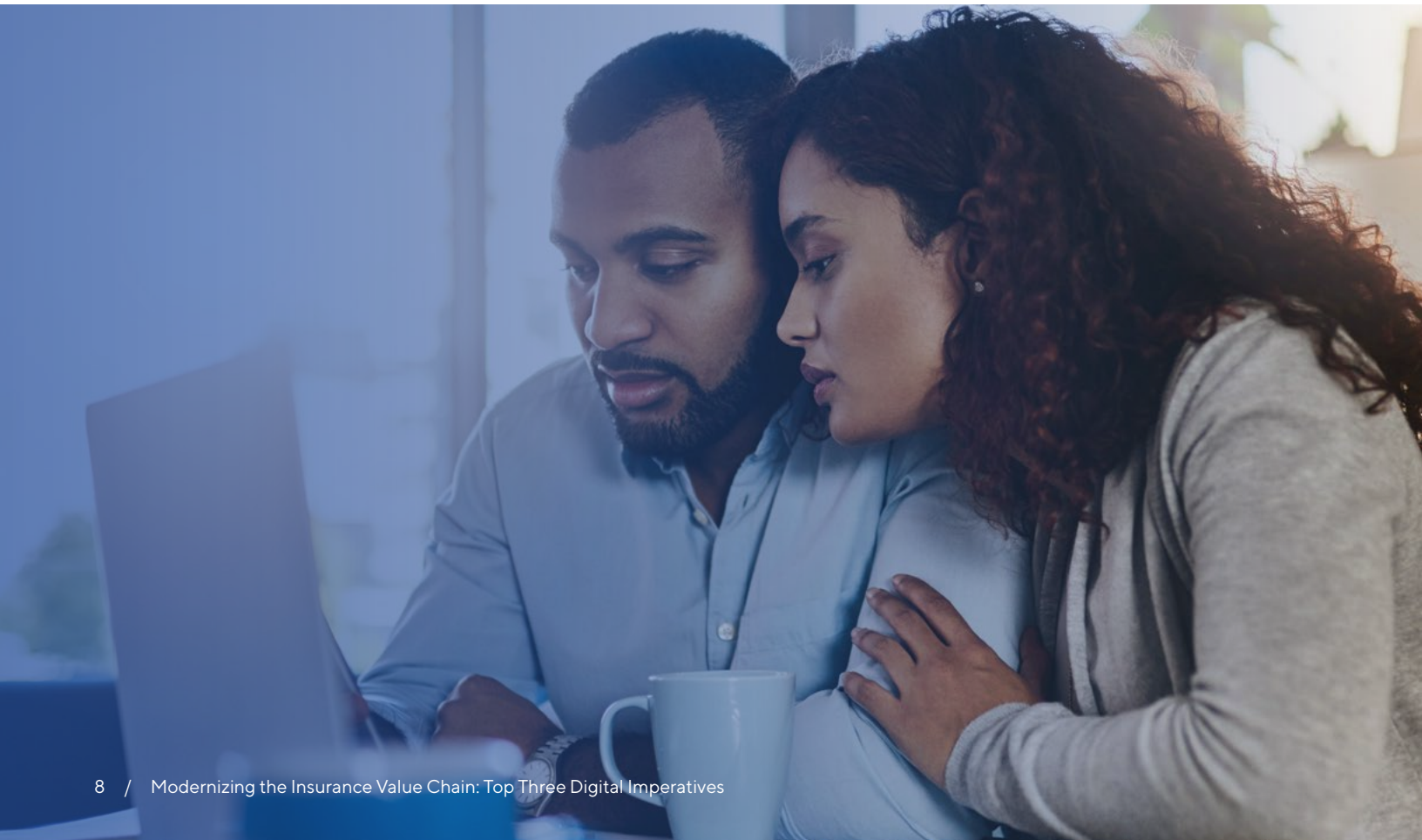
☑ Recommendations

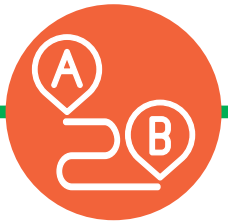
- **Develop a roadmap for gradually moving core applications and data to the cloud.** To establish priorities, conduct an application portfolio assessment that considers cloud-readiness as well as the cost of moving, and not moving, to the cloud. To support the assessment, we recommend using the value-stream mapping methodology.
- **Adopt the cloud version of existing applications.** To create a distinctly branded user experience for commercial applications like Salesforce, build a microservices-based front end.
- **Modernize legacy mainframe and server applications by converting them to a microservices architecture:**
  - > Decide which applications to modernize first, such as policy management, agency distribution, compensation management or CRM, based on potential revenue lift and what the company wants to be known for: products, service or distribution.
  - > Keep in mind that an application that costs more to migrate to the cloud, such as policy management, might also deliver the highest lift. Conversely, an application that costs less to migrate, such as compensation management, might deliver less.
  - > Prioritize frequently modified applications, as changes can be made quickly with a microservices architecture.

Application maintenance costs drop when insurance companies re-factor monolithic applications into modular microservices. To add a new feature, developers can quickly update just the affected microservices instead of modifying the entire application.

Real-world engagement: Life & annuity insurer consolidates thousands of web portals into a unified portal with a dynamic user interface

- **Challenge:** A leading life and annuity insurer wanted a faster way to build and deploy customized portals for its thousands of affinity groups, each of which expected a tailored experience. The old way, creating and maintaining separate portals for each group, was too labor-intensive to be sustainable.
- **Solution:** Using Amazon Web Services (AWS) core components, we built a single, unified portal with a dynamic user interface branded for each affinity group. A common microservices layer integrates with existing back-end services. Development took place in Agile team pods that included experts in DevOps, business analysis, testing, AWS core components and Java resources. We used the Scrum framework, coding in days so that the business unit could review progress and weigh in on changes.
- **Outcomes:**
  - > 35% reduction in five-year TCO for the affinity group portals, a result of managed cloud infrastructure and automation.
  - > Faster launches of new web portals, moving to one week from three months.





GOAL #3: Grow revenue by differentiating the customer journey

In today's crowded market, even the most appealing new insurance offering will fail if the customer journey is cumbersome.

Customers evaluate the experience based on:

- Convenience, as customers, agents and brokers like having the freedom to interact with the company via any touch point — mobile app, web or contact center — and to continue later from any other touch point, right where they left off.
- A fast time-to-resolution — for example, a speedy policy activation or claim payout.
- Relevant, personalized offers received at the right time, such as retirement products or life insurance products immediately after a marriage or a child's birth.

Technologies such as electronic document capture and processing, robotic process automation (RPA) and robo-advisors improve serviceability to create a competitive advantage. Imagine differentiating your brand by:

- Paying auto-glass claims (and scheduling a repair appointment) within 10 minutes.
- Issuing an auto policy 30 seconds after an applicant submits a driver's license and vehicle registration photos.
- Issuing a life policy two minutes after an applicant grants access to a Fitbit or health app.
- Offering quote-to-buy small-business insurance that requires only the applicant's contact information, tax ID and coverage needs.

☑ Recommendations

- **Accelerate policy issuance and claims settlement by adopting STP.** With STP, brokers or agents can capture data and documents electronically at the start of the insurance process and then pass them automatically to the insurer, reinsurance broker and reinsurer.
- **Replace manual data reentry with RPA.** This involves training machines to copy data from one system to another; for example, move the value in Screen 1, Field 3 on one system to Screen 2, Field 7 on another system. Eliminate human data entry to accelerate policy issuance and claims settlement from days to hours, or hours to minutes. (For more about RPA in the insurance industry, read "RPA Is Just the Start: How Insurers Can Develop a Successful Intelligent Process Automation Strategy.")

Quick Take

Lower servicing costs with robo-advisors

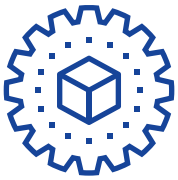
In one of its business segments, a Fortune 500 financial services and insurance organization was heavily focused on high-net-worth individual accounts with dedicated personal advisor services. To offset slowing growth, the company sought to also offer the service to millennials, the vast majority of whom do not have the net worth to make personal-advisor services profitable.

The company engaged us to recommend and cocreate a robotic advisor product. To accelerate product launch, the client focused on business algorithms while we focused on integration, customer engagement and a personalized experience. The resulting robotic advisor product helped the client:

- Acquire hundreds of new customers and over $20 million in assets within 60 days.
- Reduce the time to open an account from three weeks to three days.
- Establish a pipeline of retail investors who could be transitioned to traditional managed accounts as their assets grow and needs change.

- **Create a seamless digital experience across the value chain — from engagement to claims.** Customers should be able to use one app or web portal for everything related to their policy, from applying for a policy or capturing photos of damage to starting a call or chat session with the insurer. Customers who start with one channel, such as a web portal, and later switch to another channel, such as the contact center, should not have to restate or reenter information already provided.
- **Build robo-advisors to support customer product selection, next best action, investment advice and other stressful decisions.** (See Quick Take, previous page.)

Real-world engagement: Global insurer automates low-value claims processing



- **Challenge:** To offer innovative products and coverages in a new geographic market, a global insurer partnered with airlines, travel agencies and multiple other distribution channels to introduce a new product that offered one-click enrollment, pay-per-ride coverage and real-time claim payments via a mobile app. With a larger customer base, the client also needed the capacity to handle more claims.
- **Solution:** To handle the influx of low-value claims, we built an AI-based STP solution. Customers now use a mobile app to describe the incident via text, voice or video and upload the necessary proof. A natural language processing engine extracts needed information and then forwards it for processing.
- **Outcomes:**
  - > Faster claims processing, moving to three minutes from more than five days.
  - > 50% more claims-handling capacity.

Looking ahead

To compete with nontraditional market entrants — and profit from insurtech rather than lose business to it — insurance companies need the people, processes and technology to quickly identify emerging opportunities and launch new products. We recommend that insurance companies first identify their comparative advantage — product, experience or distribution — and then do some combination of the following:

- Modernize existing applications by adding a new interface or by making them cloud-native to reduce management costs and accelerate new feature introductions.
- Build new microservices-based applications to meet new customer needs, leveraging AI, IoT, machine learning and RPA to differentiate the customer journey.
- Accelerate time-to-market by distributing new products through exchanges, marketplaces or aggregators. This will afford time to build an internal distribution channel if desired.

Keep in mind that modern digital engineering does not happen in a vacuum; new products need to play well with existing technologies and processes. Be sure that the development team has the in-depth understanding of legacy insurance applications and the data needed to integrate them with new, digitally engineered products.

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Endnotes

1 "Alphabet invests $375 million in health insurance start-up Oscar," *Los Angeles Times,* August 14, 2018, www.latimes.com/business/la-fi-oscar-alphabet-20180814-story.html.

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About the authors

Michael Clifton

Senior Vice President, Insurance Strategy, Platforms & Ventures, Cognizant

Michael Clifton leads the Emergent Business Group within Cognizant's Global Insurance Practice to bring next-generation venture start-ups, partnerships and platforms to market. He is known as a senior leader and strategist with broad expertise in assessing operations and business challenges, developing strategies and delivering results. Michael brings extensive experience in driving innovation and change for business transformation. He has a diverse background in the insurance, financial services and technology industries (software and services), focused on delivering global initiatives that align corporate targets. His specialties include IT modernization of infrastructure and legacy apps, and guiding our global clients in developing digital narratives across the value chain. Michael has worked closely with large-scale and geographically distributed work forces to enable change. Prior to Cognizant, Michael held C-level positions at the Federal Bank of Boston and the Hanover Insurance Group, and he founded and divested a number of start-up businesses. He can be reached at Michael.Clifton@cognizant.com | www.linkedin.com/in/michael-clifton/.

Rajesh Shastri

Vice President, CTO and Digital Engineering Leader, Insurance Practice, Cognizant

Rajesh Shastri leads the Digital Engineering and Technology Office within Cognizant's Insurance Practice. He is a recognized leader in driving technology-led transformation to achieve business outcomes such as accelerating speed-to-market, optimizing technology investments and automating operations to reduce costs and improve the customer journey. Rajesh has led major initiatives involving legacy application transformation, greenfield application development and cloud-enablement of insurance applications. His technical expertise includes cloud-native architectures, microservices and applying digital technologies to optimize the insurance value chain. He can be reached at Rajesh.Shastri@cognizant.com | www.linkedin.com/in/rajesh-shastri-545b238/.


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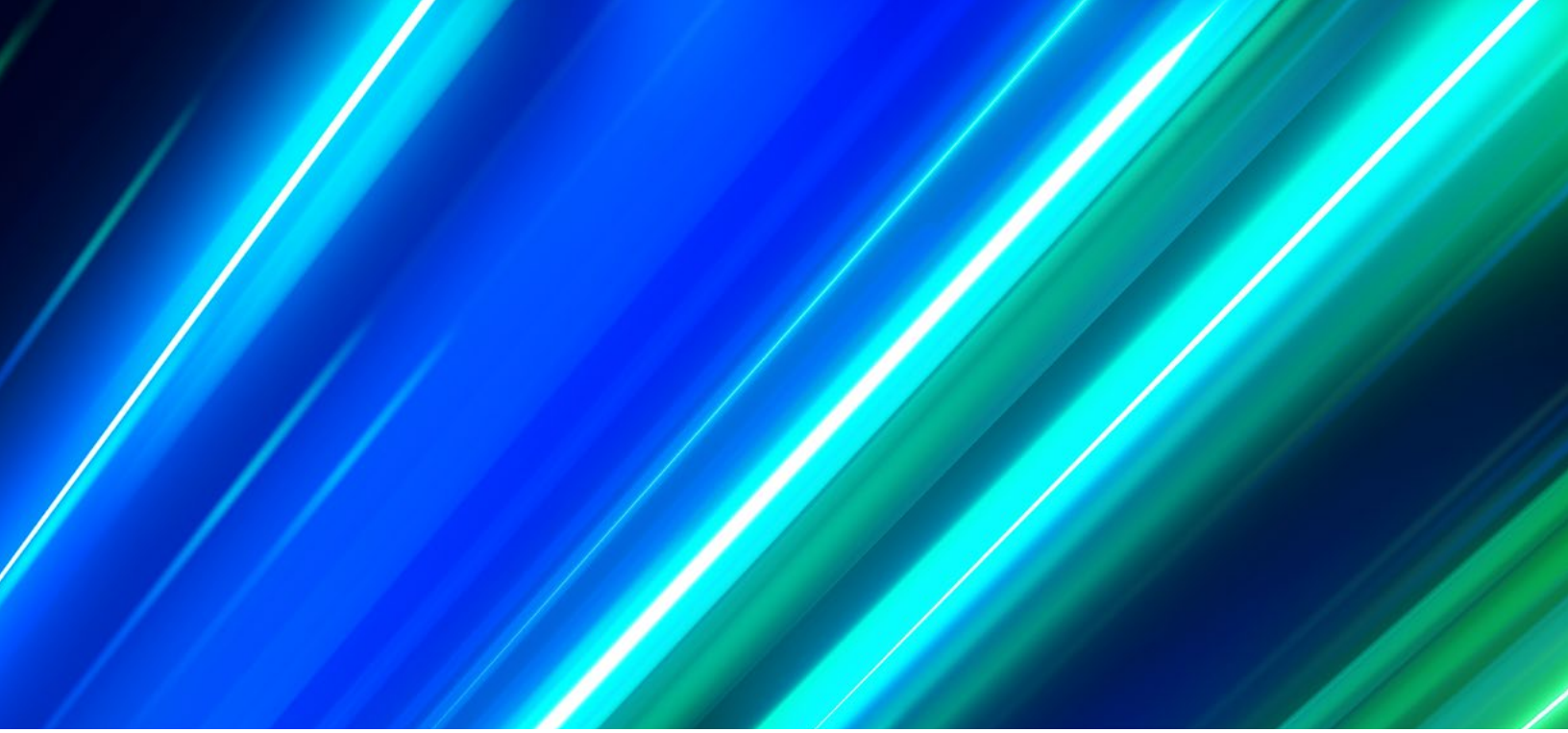

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Cognizant's Insurance Practice is one of the largest industry verticals that partners with insurers to evolve their business and technology landscape and enable end-to-end digital transformation. Thirty-three of the top 50 U.S. insurers and seven of the top 10 global insurers rely on us to help manage their technology portfolio across multiple business entities and geographies. We serve the entire range of lines of business within life, annuities, and property and casualty insurance. Our consulting-led approach, deep domain expertise and partner ecosystem enable clients to address the dual mandate of " optimizing the business" while "driving digital at scale." From large-scale core system transformation to adoption of cutting-edge technologies like artificial intelligence, analytics, blockchain, automation and machine learning, we partner with insurers to envision and build the digital insurer of the future. Our partnership includes helping insurers build their own technology platform with the capabilities they need or providing one for them, incorporating digital solutions to achieve immediate results. Learn more at www.cognizant.com/insurance.

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As part of Cognizant Digital Business, our customer-centric approach to digital product engineering leverages speed, scale and a digital DNA culture to deliver experience-based software products. We enable our clients to accelerate their digital transformation journey by developing strategies to replace legacy systems with a cloud-native architecture. This is the first step for clients evolving from traditional into digital companies — ready for tomorrow's marketplace. Visit Cognizant Softvision at www.cognizant.com/cognizant-digital-business/softvision-digital-product-engineering.

About Cognizant

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Cognizant

World Headquarters

500 Frank W. Burr Blvd.
Teaneck, NJ 07666 USA
Phone: +1 201 801 0233
Fax: +1 201 801 0243
Toll Free: +1 888 937 3277

European Headquarters

1 Kingdom Street
Paddington Central
London W2 6BD England
Phone: +44 (0) 20 7297 7600
Fax: +44 (0) 20 7121 0102

India Operations Headquarters

#5/535 Old Mahabalipuram Road
Okkiyam Pettai, Thoraipakkam
Chennai, 600 096 India
Phone: +91 (0) 44 4209 6000
Fax: +91 (0) 44 4209 6060

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