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From the Desk of

Patrick Wraight

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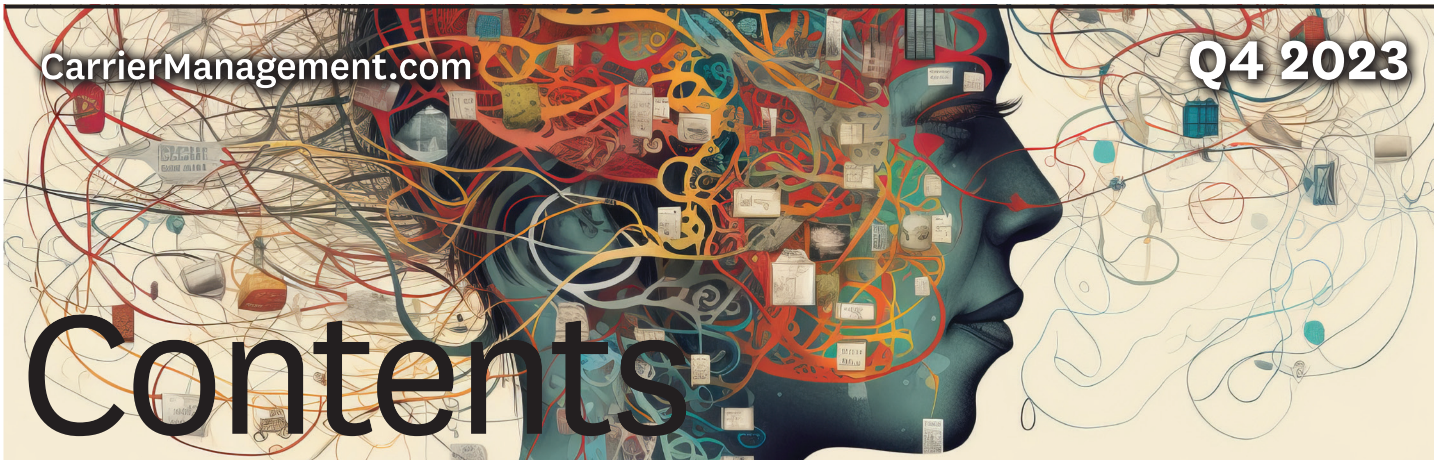

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Making More Connections

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Matteo Carbone, Guest Editor

Matteo Carbone is the Founder and Director of the IoT Insurance Observatory.

Carbone is also the author of a book titled "All the Insurance Players Will Be InsurTech" and guest editor of this special *Carrier Management* report on IoT insurance applications.

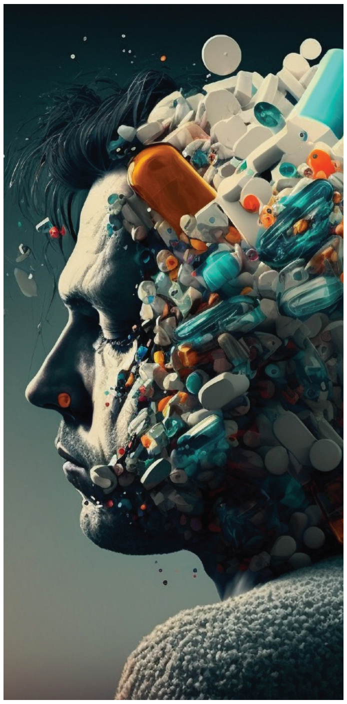
A frequent contributor, Carbone was also a guest editor for CM's 2018 featured magazine section, "Startups Face Off Against Established Players" (November/ December 2018 edition; co-editor Adrian Jones) and CM's 2021 featured magazine section, "Insurance is Getting Connected")

The IoT Insurance Observatory is an insurance think tank dedicated to promoting a profitable usage of IoT data in the insurance sector. Over its seven annual editions, the Observatory has aggregated more than 90 insurance companies, including four of the top five reinsurers, 11 of the top 15 European insurance groups, and 10 of the top 15 U.S. P/C insurance Groups—and more than 50 tech players.

Allstate, HSB, Nationwide, State Farm, The Hartford and Tokio Marine—the contributors to this special *Carrier Management* edition dedicated to IoT—are current members of the Observatory and their executives have discussed their experiences at the peer discussions with all the other members.

Read more about Carbone on page 37

Features Q4 2023



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Critical Information for P/C Insurance Company Executives & Directors

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Claims or No Claims

"A Moment of Incredible Opportunities"

That title atop a series of slides presented by a featured speaker at a Casualty Actuarial Society meeting drew my attention recently. Alex Salkever, futurist, writer and technology leader, was delivering remarks on the topic of how AI tools will—and will not—alter human work.

Coincidentally, his presentation was broadcast as I was reading a trio of articles by Deputy Editor Elizabeth Blosfield, for which she interviewed leaders of carrier claims organizations about their top-of-mind challenges—and opportunities—going into 2024. AI ranked first in both areas. Catastrophes that develop unpredictably followed close behind as a challenge.

Salkever's first "Moment of Incredible Opportunities" slide displayed a *New York Times* headline, "Can A.I. Detect Wildfires Faster Than Humans? California Is Trying to Find Out" (by Thomas Fuller, Aug. 24, 2022). The second showed images taken from a dozen cameras situated in wildfire-prone areas of California. Over 1,000 cameras, Salkever said, "have machine vision and very advanced detection capabilities on them, and they are scanning with software in the back end for very early signs of fire."

A collaboration of the University of California San Diego's public safety program (AlertCalifornia) and the California Department of Forestry and Fire Protection (Cal Fire), the AI detection system alerted firefighters about fire conditions before 911 calls 40 percent of the time, the *Times* article said. In fact, it correctly identified 77 fires in advance of 911 calls during the first two months of operation, according to a *Time* magazine article declaring this one of "The Best Inventions of 2023."

In the insurance claims space, a lack of predictability frustrates claims executives as they try to mobilize adjusters to help disaster-stricken policyholders. "It's not like next Tuesday you're going to have this claim to handle. They happen when they happen...We need to be there for our customers," Eric Sanders, chief claims officer for QBE North America, told Blosfield.

But what if they didn't happen?

While neither Salkever nor the experts cited in other press reports suggest that AI or any other technology will eliminate wildfire insurance claims, Salkever reminded his audience that "the goal of Cal Fire is to stop 95 percent of fires before they hit 10 acres."

In addition to our focus on claims topics, this magazine features the "how we're doing it" stories of insurers already using another emerging technology—sensor technology, commonly referred to as the Internet of Things. Returning as Guest Editor with a follow-up to a prior report—"Insurance Is Getting Connected: IoT Arrives in Insurance" (Q3 2021)—IoT Insurance Observatory Director Matteo Carbone teamed up with representatives of State Farm, HSB, Nationwide, Tokio Marine, The Hartford and Allstate to detail the increased sensor-powered connections they're making to the physical world to alert humans (or automated shutoff technology) to act in ways that will eliminate dangers and change risky behaviors—ultimately reducing insurance claims.

Three articles co-authored by Carbone refer to a simple plug-in sensor that also "employs machine learning to detect and mitigate electrical fire hazards, such as electrical arcing concealed behind walls," preventing a high percentage of electrically generated fires. In one of the articles, Carbone and HSB's Gordon Hui advance the idea that IoT can help improve overall carrier underwriting performance "by offsetting cat-related losses with proactive management of losses caused by non-cat perils, including non-weather water."

In yet another article, Carbone and State Farm's Haden Kirkpatrick note that "through loss mitigation smart home vendors, State Farm harbors the ambition of preventing 20 percent of losses related to fire, water and theft."

In one article referring to car insurance applications, Carbone and Tokio Marine's Robert Pick describe a telematics product "focused on improving driving behaviors consistent with the carrier's goal to create accident-free cities in Japan." Carbone and Allstate's Susanna Su set the scene of a crash—and an ensuing push notification from a mobile app asking, "Do you need to call 911?"

"One side of property and casualty is insuring for damages. The other is lives. And getting people out in time," Salkever said at one point during his talk at the CAS meeting. "Insurance is an incredible lever for changing society and changing the way the world works," he also said.

"The greatest success stories of this [technology] are the fires you never hear about," an AlertCalifornia investigator said in the *New York Times* article.

Send your feedback to Susanne Sclafane at ssclafane@carriermanagement.com

Why Strategic Implementations Fail

and the Counterintuitive Way to Address It

Executive Summary: The failure to implement and accomplish strategic goals is a top risk for P/C insurers, according to Carol Williams, a risk management and strategy consultant for P/C insurers. Here, she offers a counterintuitive fix: cut down the number of goals and initiatives to a handful, and go all-in to get them done. She draws upon the ideas of Dr. Gerald Weinberg, a computer scientist and psychologist, and Todd Herman, an executive coach, to explain how "context switching" required for multitasking erodes the time and focus available to execute goals set by individuals and by organizations.

By Carol A. Williams

What do you think is the biggest threat facing property/casualty insurers today?

Is it escalating claim volumes? Litigation? Higher reinsurance costs? Other industry-specific challenges?

The answer may stun you. It's actually none of the above.

One of the top risks to P/C insurers can threaten any type of organization—namely, failure to implement and accomplish strategic goals.

Despite some improvement over the last couple of decades, strategy execution is still a significant problem. According to

Carol A. Williams is the CEO of Strategic Decision Solutions, a consultancy that has helped numerous P/C insurers address unique challenges to their success. Williams started her career in insurance and risk management with the Florida Office of Insurance Regulation nearly 20 years ago, more recently holding various ERM leadership positions for Citizens Property Insurance Corporation. At Strategic Decision Solutions, she focuses on helping carriers move beyond putting out fires to achieving strategic goals. Reach her at Carol@strategicdecisionsolutions.com.

research from Bridges Business Consultancy provided in the book "Excellence in Execution: HOW to Implement your Strategy," 90 percent of companies surveyed in 2002 reported that they failed to achieve at least 50 percent of objectives in the time allotted. Although this number had dropped to around 67 percent by 2016, this still represents a significant number of companies that fail to meet their strategic goals.

This carries a pretty hefty price tag. According to research from CEB (2014), also cited in "Excellence in Execution," this failure results in a cost of up to 50 percent of an organization's potential cumulative cash flow (CEB's Executive Guidance for 2015). Other studies from the Project Management Institute show that for every $1 billion in investment, organizations lose roughly $100 million due to poor performance ($99 million per 2018 Pulse of the Profession study).

Outcomes like this can put a company in peril, especially in today's world of acquisitions, technology improvements, eroding profit margins, market displacement and myriad other disruptions.

Of course, financial impacts are not the only ones. Missing goals can have a significant impact on morale. It can be discouraging to fall short of goals time and again, especially after you and your team have worked so hard all year long.

This begs the question: What can be done to ensure the company meets the strategic goals it has set?

This isn't the first time I've explored the topic of implementation. One year ago, I outlined core components of successfully implementing a strategic plan, along with some common reasons why many fall short. (Related article, "Going the Distance: How P/C Insurers Can Put Strategic Plans Into Action") One reason cited—lack of agility—is where I want to focus today.

An increasingly vital skill P/C insurers must possess in this topsy-turvy world is the ability to adapt as conditions warrant.

What often happens is that the company develops so many strategic goals that it ends up strangling the company's ability to be agile. This seemingly "ambitious" strategy actually results in widespread frustration—from executives to frontline workers—when the goals aren't met.

In order to move forward, you may feel like you need to go backward by reducing the number of strategic goals your company sets. "Excellence in Execution" recommends the number of goals be reduced by at least half, but depending on the company's size and experience with strategic planning and execution, it may be wise to cut this number to just one.

Besides agility, it's inevitable that with so many goals, the company leadership will also identify a list of 50 or more projects

"Missing goals can have a significant impact on morale. It can be discouraging to fall short of goals time and again, especially after you and your team have worked so hard all year long."

needed to accomplish those goals. Unless you are a company with 10,000 or more staff with decades of experience, it won't take long to get bogged down and spread too thin.

So far, what has been described are only the symptoms. But what is the root cause? Why is having too many goals disastrous?

The fundamental reason why so many companies do not accomplish the goals they set boils down to a single word: multitasking. Emerging on the scene in the mid-1960s, multitasking was seen as a way to get more done in a limited about of time. This can manifest itself in a variety of forms, such as answering texts or emails during a meeting, or working on multiple projects or strategic goals at once.

It was first thought multitasking could be helpful, but more research in the last 10-20 years coupled with real-world experience has cast much doubt on that. For example, according to a study published in *Psychonomic Bulletin & Review*, (Watson, J.M., Strayer, D.L. "Supertaskers: Profiles in extraordinary multitasking ability," Psychonomic Bulletin & Review 17, 479-485, 2010) only 2.5 percent of people are able to multitask effectively.

Writing in Forbes, Founder and CEO of FocusWise Curt Steinhorst elaborates on the drawbacks of multitasking when he explains: "Although it purports to increase efficiency, in most cases, multitasking merely increases busyness while eroding

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productivity. (A better name might be 'multitaxing.') It is the business equivalent of leaving a runner on second at the end of an inning. Baseball teams aren't productive because they engage in feverish activity; they're productive because they focus on bringing the runner home. Leaders need to make sure their companies do the same."

One concept people often forget is that strategic goals and initiatives require not just physical capacity but mental as well. Juggling too many projects, or multitasking to accomplish a certain number of goals, can get too mentally taxing. This ultimately is due to the fact that multitasking like this requires what is called context switching, a concept developed by Dr. Gerald Weinberg at the University of California-San Diego in the mid-1990s. The central premise of this theory is that time is inevitably lost because of the recalibration the brain naturally undergoes from switching tasks or projects.

Executive coach Todd Herman, creator of the 90-Day Year, explains it like this in a video interview featured in Forbes: If there are two projects, it's easy to think one can be worked on for four hours, or half the day, and the other one for the second half of the day. However, because of context switching, 20 percent of that time is lost.

With three projects, available time drops by 40 percent, meaning that in a 10-hour day, you're losing four hours to context switching. When you stop yourself from focused effort, it takes approximately 12 minutes of concentrated work to get

yourself back into this "flow state," Herman explains in the interview.

Although commentary by Herman and others on multitasking focuses mainly on individual effort, it is not hard to see why so many companies fall short of achieving their strategic goals. After all, all companies are made up of individuals striving toward the same goals.

Now, let's be clear—I am not advocating that companies should only have one goal or one strategic initiative at a time, though that may make sense for some smaller companies with fewer resources. But having too many goals means more multitasking and context switching, and nothing ever gets done.

"You are judged by what you do, not by what you think or intend to do," Herman states in his interview. Said differently, it's not the number of goals and amount of effort that we "put in" but instead "how we execute or how we perform that matters. All that happens on the field of play, the field of doing."

Knowing just the right number of goals to maximize your company's performance is partially found in understanding specific attributes of how you and your team work. Herman's 90-Day Year has a free Performance Style Quiz to help you and your team do this. (Note: I have used 90-Day Year but have no referral arrangement with them.)

It may seem simple and mundane, but as I've witnessed working with companies in the P/C industry, streamlining the number of strategic goals can have positive impacts beyond improved finances and company growth. Frequently, major initiatives are completed about two-thirds through the year, which allows for additional, maybe dependent or secondary projects to get started, especially if they can be finished by the end of the calendar year.

In the end, as we discussed in the article on implementation published here in *Carrier Management* a year ago, you can have the most robust planning process that yields some impressive, ambitious goals. However, without good implementation on the back end, the goals and process for developing them won't be worth much.

As Steve Jobs reportedly said, "To me, ideas are worth nothing unless executed. They are just a multiplier. Execution is worth millions."

Don't leave figurative—or maybe even literal—millions on the table by falling short of strategic goals due to excessive context switching and other pitfalls of multitasking.

Hone in on specific goals and projects that will really move the needle, and go all-in to ensure those goals can be met. Bit by bit, your company will be stronger for it. CM

Carol A. Williams is a regular contributor to *Carrier Management*. Her prior articles include:

- Going the Distance: How P/C Insurers Can Put Strategic Plans Into Action
- What Does an Ideal Strategic Planning Process Look Like?
- How Carriers Can Meet Strategic Goals During Inflationary Times
- How to Move Past 'Analysis Paralysis': 5 Steps for Leaders
- Stop the Deluge: Why P/C Leaders Should Rethink Project Management

A Turnaround Story:

Boost People, Then Financial Results, Aspen CEO Says

Executive Summary: When Mark Cloutier took the helm of Aspen to return the company to profitability, he knew a vital first step would begin with its group of talented people. There were cultural challenges that needed addressing along with the reunderwriting of its portfolio. People are at the heart of a corporate turnaround.

By L.S Howard

The turnaround at Aspen Insurance Holdings—the result of a multi-pronged, multi-year effort—is bearing fruit with a return to consistent profits. Mark Cloutier, executive chairman and CEO, attributed Aspen's turn of fortune to a focus on its people and hard work to reunderwrite its book.

When Cloutier joined Aspen in 2019, he knew that he and his team had to get on top of challenges including level of volatility in the company's results, its lackluster return on equity and its lagging performance across market cycles.

"We also recognized that there were… people and cultural challenges within the business. That's not to say there wasn't a terrific group of people in the business," he emphasized during an interview with *Carrier Management*. In fact, he recalled that when he told people in the industry that he was soon to join Aspen, he heard a common message: "We really like the people. The company has struggled, but man, you've got a bunch of good, talented people there."

Still, morale had gotten low. Cloutier noted that there had been a hostile takeover attempt (by Endurance Specialty Holdings in 2014), which proved to be divisive within the management team. Then a sales process, which ultimately resulted in Apollo Global Management acquiring the business in February 2019, "was difficult and challenging," he said.

People Key to Performance

"All of that led to a pretty dispirited group of really nice, really good people, and so we recognized we needed to put a lot of effort into our people. If we were going to turn the performance around, you can only do that through people."

Cloutier said he took close to 50 senior leaders to an offsite meeting where they wrote a new set of six values and behaviors: one Aspen team creating value; open minded; do the right thing; in it together; own it; innovate. (See related sidebar, p. 14, for more details about the values.)

These values provided a vision for the business—a description of how Aspen was going to achieve that vision and how people should conduct themselves on a day-to-day basis. Cloutier acknowledged

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that people were somewhat cynical about whether "this new guy" and the management team would live the values and behaviors. "So, we set out to prove that we meant what we said. We got our people engaged," he said.

Steps to Profitability

"We had a lot of hard work to do on the turnaround and the performance improvements. So, we went in and looked at the entire portfolio—all lines and classes of business for both insurance and reinsurance."

The team took three major steps designed to improve performance, reduce volatility and provide Aspen with a more stable business to manage through the cycle, he noted.

"First, we identified business that had produced poor results but where we had strong trading relationships and good results in other classes and lines," Cloutier recalled.

"We made the decision to go to those partners and say we're making a commitment to stay and grow in some classes across the cycle but needed [their] help on the underperforming business to either improve performance through rate, terms, etc., or help us exit. As a result, while we exited a fair amount of business, we were able to grow in our core classes with many of our key trading partners."

At the end of step 1 of the reunderwriting process, Aspen closed down 17 lines of business and disposed of close to $1 billion of annual gross written premium. At the same time, however, it grew year over year "in the lines and classes of business that we wanted to [continue writing]."

Step 2 of the underwriting turnaround was to reduce the size of limits being offered. "Aspen historically had put out limits, line sizes, that were, in my view, way too large for the size of the balance sheet," Cloutier said.

"So, we did a complete revision and compressed the limits profile of the business where they were previously putting out a $30 million net line and now we're putting out a maximum of $5 million, just as an example," he continued. "This took the volatility down, made the individual risk positions smaller with more spread in the portfolio. While we've continued to grow the premium base, we're putting out smaller pieces."

A third step in the turnaround was to build up the company's existing capital markets business—Aspen Capital Partners—which was small "but doing a great job for the investors that had supported it inside the business," Cloutier said.

"We believed we could make that sort of a third pillar to the business [along with insurance and reinsurance]. So, we started to explore ways to expand the deployment of capital markets capacity into more than just property-cat," he explained.

As a result, the vast majority of Aspen's capital markets income comes from areas other than property-catastrophe business, such as casualty and cyber.

"So, those were the three main steps that we took in terms of performance improvement. Underlying all of that, we brought in additional underwriting controls and discipline, and we upskilled in areas of the business where we felt we needed stronger skillsets."

"We are trying to build a flat, non-hierarchical, friendly, I'm-just-one-member-of-the-team culture."

Mark Cloutier, Aspen

(*Editor's Note:* The company also arranged for a loss portfolio transfer with Enstar in 2022, a point that Cloutier didn't touch upon during the *Carrier Management* interview. Under the terms of the LPT agreement, Enstar assumes net loss reserves of $3.1 billion for losses incurred on or prior to Dec. 31, 2019, on Aspen's diverse mix of property, liability and specialty lines across the U.S., UK and other jurisdictions.)

All these efforts have worked for Aspen, which, after five years of losses, returned to profits in 2021 and 2022. The company's 2022 combined ratio improved to 93.0 from 101.2 in 2021, while operating return on average equity was 11.9 percent in full-year 2022, compared with 2.4 percent in 2021. Further, the positive trends have continued this year with net income increasing by 352 percent to $219 million during the first half, compared to $48 million in first-half 2022. Aspen reported a first-half 2023 combined ratio of 83.8, an improvement from 88.2 in first-half 2022. (Combined ratios below 100 indicate underwriting profit.)

Of course, the hard market seen during the past few years has helped the company with its reunderwriting efforts. After all, Aspen wasn't alone. Many reinsurers, for example, were feeling the profit pinch and needed to raise rates, reduce line sizes and lower attachment points.

"Our business is about taking uncertainty," Cloutier said. "That is our role, and we're happy to do it. The question isn't whether or not we're willing to do it. The question is whether we think we're adequately paid to onboard the uncertainty people are asking us to onboard."

The insurance and reinsurance sector should be making ROEs of mid-to-high teens across the cycle, which the sector is far from achieving, he said. The sector hasn't "made an adequate return across the cycle for our investors, and they are tired of that."

He said with a chuckle that there is currently a lot of excitement about U.S. excess and surplus lines property business.

Aspen closed down 17 lines and disposed of close to $1 billion of annual gross premium.

At the same time, it grew year over year.

They're getting lots of rate, he said, but they're also getting greater exposure to secondary perils.

"If you think about the old tornado alley, from west Texas up through Oklahoma into Kansas, there were storms in April and May and then it was over, and later came back a little bit in November. Now, it's the whole southern half of the United States, and it's February through August and then it comes back again in November."

He questioned what the right amount of rate is for an insurer onboarding exposure to this type of attritional catastrophe loss activity. He then quoted, with a laugh, the singer Cher: "The trouble with some women is that they get all excited about nothing, and then marry him."

The industry has a broad recognition that it faces several key areas of uncertainty—from climate change and social inflation, he said.

"The level of uncertainty across our portfolios arising out of those two things suggests to me that in order to be adequately compensated to take all that uncertainty, my investors should be receiving a mid-to-high teens return for the risk that they're onboarding across a long period of time. So, that means maybe a 20 percent [ROE] in a mild cat year and a 12 percent like we did last year in a heavy cat year."

Team Effort

Cloutier emphasized that the improved results "are the result of a great team effort" and a now healthy culture.

Cloutier himself has learned a thing or two about restructuring companies from his previous career experiences. He joined Brit Group in 2011 after it was acquired by Apollo Global Management. During his tenure at Brit, he led a major reorganization of the company's global business, a listing on the London stock exchange and an initial public offering in 2014 as well as the 2015 acquisition of the business by Fairfax Financial Holdings.

At Aspen, one of Cloutier's early tasks was to build a new executive committee via a combination of new hires and promotions from within. Cloutier estimated that the team comprises 50 percent new people and 50 percent people who were promoted from the business. "Some of those are the good people that everybody was talking about."

"The net result of all these efforts is what you're seeing today: a well-rounded, healthy business with a healthy culture."

He described the composition of the team as a "great combination because it gives you the fresh perspective, but it also gives you the historical perspective—an institutional historical knowledge."

"Blending those elements together gives you a pretty strong leadership team for what we were trying to achieve, which was a transformation of the business," he continued.

Cloutier said Aspen has a relatively flat management structure, which helps with employee engagement. "We are trying to build a flat, non-hierarchical, friendly, I'm-just-one-member-of-the-team culture." The executive members spend a lot of time interacting with employees at all levels.

"When I come to London, I always try to have three or four sessions with 15-20 people from all around the business. We sit down for a two-hour conversation and talk about what's going on in the company, and I answer questions and ask them questions and get them talking about what's going on in their part of the business," Cloutier said.

Healthy Business, Healthy Culture

"Once the culture and people and the mood in the business started to improve, we began to work hard to embed the really powerful elements of Aspen being a community that is not just a great place to work but takes seriously its role in the broader communities that we live in, work in and play in."

He said Aspen has pushed its diversity

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and inclusion commitments, its corporate social responsibility, and is working on its own environmental footprint—carbon offsetting where it isn't possible to achieve net zero carbon emissions—thereby achieving the meaningful elements contained in the environmental social and governance (ESG) criteria.

"The net result of all these efforts is what you're seeing today: a well-rounded, healthy business with a healthy culture."

Aspen's 6 Values and Behaviors for Success

Aspen CEO Mark Cloutier and his team created six principles and values as an essential part of the company's turnaround—in order to create a team that rows in the same direction with the same aspirational behaviors and end goals.

One Aspen team creating value. Creating stakeholder and reputational value while increasing social capital with both internal and external clients.

Open minded. Fostering and developing ideas and initiatives that support our pillars and our sustainability work.

Do the right thing. We do good by doing well by supporting initiatives that have impact in our global and local communities.

In it together. We develop collaborative engagement with our staff, our third-sector partners and ultimately the work they do. We instill a sense of pride in current staff and build a platform to attract future talent.

Own it. We play a vital role in the success of the partners we support. We own the ability to reduce our own environmental impact.

Innovate. Through knowledge sharing and collaboration we increase our social impact. We can all do our part to make this a better world by engaging our staff in our corporate philanthropy while encouraging their own individual altruistic passions.

Cloutier emphasized that creating healthy culture is not just about producing strong financial returns. It's about the overall health of the business and how it fits in society. "We also need to give it more sustainability. If all you're doing is driving financial returns, in today's world, that's probably not a sustainable model any longer."

There has been a big shift in generational attitudes, he affirmed. "Younger people want to work for companies that they believe in. And if the message to your folks is, 'It's just about returns,' I think attitudes are so different today that you're not going to be able to keep the best and the brightest."

Maintaining the Progress

Cloutier said Aspen works hard to maintain its cultural mojo. "Much of our effort is about communication, but it's not just telling people; we actually show people as well. It's about constantly reinforcing that set of values and behaviors by example, and communicating those examples is critically important."

He explained that Aspen demonstrates how an event is consistent with the company's principles and values "and actually provides people with examples that are not just words on a piece of paper. We show them through live action, through example."

He cited one example of how Aspen's principles and values come to life with the company's investment in Blue Marble, a New York City-based microinsurance business. Blue Marble provides parametric insurance for smallholder farmers in underserved populations and income protection safety nets for individuals and SMEs against health issues, business interruption and other threats.

"We're a seed investor, we're not making a return, and we're absolutely committed to it." He explained if a drought occurs or one growing season gets wiped out, "a whole family can be thrown into poverty because they have lost the proceeds of the one growing season to buy their seeds for next year."

"Our business is about taking uncertainty...The question isn't whether or not we're willing to do it. The question is whether we think we're adequately paid to onboard the uncertainty people are asking us to onboard."

The people at Blue Marble are trying to solve those types of problems around the world, "and we believe that using our capital and our insurance knowledge and expertise to try to help are good examples of how our values can be put to work."

(Read more about it: Blue Marble was the subject of a *Carrier Management* fourth-quarter 2015 cover story, "Building a New Business Model at Blue Marble Microinsurance")

Another area where the company is making a contribution is via various educational programs to attract young people in poorer communities to the insurance business. "They often have the ability, but they don't have the means," Cloutier said.

Historically, the company recruited from Oxford and all the top schools. "We're now onboarding high school graduates from inner city communities. They're brilliant young people with lots of energy, but they would never have found their way to us if we had hung onto that old set of values," he said.

"Our values say, 'Let's go find the best and the brightest,' and you don't just find the best and the brightest at universities. You find them all over the place. So, that's a big drive for us right now. We've gone to military vets, we've gone to school leavers, we've started an apprenticeship program. That's another example of our values." CM

Advice to Retiring CEOs

Executive Summary: Rick Parks, the former chief executive officer of Society Insurance, offered some reflections on preparing for retirement—both during the CEO's tenure as leader, and in the days after handing the leadership baton to a successor.

Parks originally published this article on LinkedIn. *Carrier Management* is republishing it with his permission.

By Rick Parks

Being a CEO can be an all-consuming job.

No matter how well the organization is performing, there is always the sense of responsibility to stakeholders. CEOs are also granted a sort of "rock star" status in our society, no matter how small and humble the organization may be. It is easy to let the role define you.

But at some point, your time in the role comes to an end. For CEOs fortunate enough to pick the time and place, and who can also make their CEO tenure the last act of a professional career in an industry, I want to offer some advice on making the next phase of your life a rich and fulfilling time.

During the CEO Tenure

Start the role with the end in mind. No matter how well you run the organization, or how long you are at the helm, at some point you will be gone. Build your team and a pool of potential successors from day one. When the time comes to go, knowing that the organization is in good hands and positioned to go on to even bigger and better things will allow you to focus on your best life in retirement.

Don't let the role define you completely. While there may be no true work-life balance for a CEO, keep a life outside the role and engage in things that excite a passion for you. Make time for family and friends. Keep up with hobbies and pastimes that bring you joy. Take care of yourself physically and mentally. A little can go a long way on this. These things will be your base of life after being a CEO.

Ease out. If you are at highway speed and suddenly see an intersection in front of you, it's a terrifying experience to come to an abrupt stop and decide on your next direction. Far better to appreciate the intersection is coming and to ease into it. You are still in control, and it's easier to change drivers—both for you and the next in the role. Yes, you are paid to do the job, but you are also paid to assure the transition is successful. You owe this to the organization and to your successor.

After Retirement

There may be the rare CEO who simply wants to watch nature from their back porch in retirement, but most of us likely aspire to be more active than that. After all, we spent years in a very active and high-profile role. We also have much to give based on our experiences. What we give and how we give it will differ for everyone, but I'll share what I've learned so far.

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Rick Parks is the retired CEO of Society Insurance, a 108-year-old property/casualty insurance company headquartered in Fond du Lac, Wis. In retirement, he is a part-time instructor in Risk Management & Insurance at Marian University of Wisconsin in Fond du Lac. He is also the principal of Rick Parks Consulting, a consultancy firm that advising the property/casualty insurance industry and business organizations in general. Reach him at rick@rickparksconsulting.com.

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Take advantage of the opportunity to further enrich your relationship with family and friends. If you did the right thing and nurtured that during your CEO tenure, this is your chance to devote even more time to them. Go to that family reunion you've never been able to make. Reconnect with an old friend.

Take time to reflect on what brings you fulfillment and joy. If you have already made a deep dive on this, good for you. If not, now is the time. Devote as much attention to this as you did in building the strategy and culture of your organization. You've spent a lot of time planning for others. It's time to plan for you.

Don't overcommit right away. You have been very busy and heavily scheduled in your CEO role. The temptation to simply move that over to another track is immense. My advice is simple: Don't do it. The next challenge may look completely clear, but start slow and build if it is a great fit.

Try something new. As a CEO you likely learned something new every day. That was part of the excitement of the role. Don't lose that. George W. Bush took up painting after his presidency, and now it's a passion for him. Trying new things is scary, but finding a new passion in retirement adds excitement to this phase of your life.

Be grateful and generous. Especially in the corporate world, you were extremely fortunate to have been a CEO. Besides the diverse experiences you had, it's possible you accumulated financial resources that few people ever see. Remember how lucky you've been and consider what helped you rise to the CEO office. Pay it forward.

My Retirement

I am new to retirement, but following the steps I've outlined here has led me to a promising start.

The CEO who succeeded me is an outstanding person and a great leader. She will clearly build on what I did in the role and take the company to a bigger and better place. I continue as a board member (but not as board chair), which allows an occasional view of the progress of the company.

Spending more time with family and friends has been a blessing. We will be going to that long-neglected family reunion, and I am looking forward to that as much as if I had scored Super Bowl tickets. I voluntarily go shopping with my wife, which is opening up an avenue of retail therapy that previously eluded me.

I am actively involved in at least a few things that can be considered commitments, but they still allow me a freedom of time I did not have in the CEO role.

I've been blessed to be able to teach a class on Risk Management & Insurance at Marian University of Wisconsin, located in Fond du Lac where my former company is headquartered. This checks off multiple parts of my advice to retiring CEOs. It's definitely something new, but it also allows me to give back to an industry that was so

About Rick Parks

Rick Parks is the retired CEO of Society Insurance, a 108-year-old property/casualty insurance company headquartered in Fond du Lac, Wis.

He is a former chair and board member of the Wisconsin Insurance Alliance and a former board member of the American Property Casualty Insurers Association. Parks also served for over 10 years as the chair of the State of Wisconsin Property Casualty Advisory Council that coordinated with the Wisconsin Office of the Commissioner of Insurance on P/C insurance issues in the state. He was a long-time member of the Wisconsin Manufacturers and Commerce board, the state manufacturers association and state chamber of commerce.

In retirement, Parks is a part-time instructor in Risk Management & Insurance at Marian University of Wisconsin in Fond du Lac. He is also the principal of Rick Parks Consulting, a consultancy firm that advising the P/C insurance industry and business organizations in general.

If you are at highway speed and suddenly see an intersection in front of you, it's a terrifying experience to come to an abrupt stop and decide on your next direction.

very good to me. My one class schedule doesn't overburden me, but it gives some insight on how much more I can commit to while maintaining the flexibility one should have in retirement.

Teaching insurance in a university setting is new but familiar ground. In the vein of trying something new that is also a little scary, I've jumped into the music ministry of the Catholic parish where I am a member. This happened prior to my retirement but was something I saw as potentially becoming a significant part of my post-retirement life. I was recruited to be a cantor during the later phases of the pandemic as many people were sticking close to home and cantors were in short supply. If you aren't Catholic, the cantor leads the singing in the service, including Mass parts. You are definitely out there. In my parish, attendance at Mass is in the hundreds. I did not read music when I started (and have only a scant capability now), so my learning curve was steeper than for most new cantors. It's been very fulfilling to become at least competent. I've gone on to join the parish choir, where I've been thrown into the complexity of four-part harmony.

I've also tried to be mindful of opportunities to give back. I am the board chair of a large nonprofit, Forward Services Corporation, located in Madison, Wis. Forward Services offers job training and job preparedness programs to adults and youth throughout Wisconsin. I had been involved with the organization for many years and worked with a great CEO who retired on the same day as me. As board chair I'm able to work with a new CEO, who will also take that organization on to bigger and better things.

My family has also set up a couple of charitable funds that are focused on providing scholarships to incoming college students who may need some help on getting started. My wife and I both benefited from scholarships to attend college, so we are paying that forward. CM

2B or Not 2B?

That Was the Question for Aspartame

Executive Summary: In spite of similarities between the chemicals aspartame and glyphosate—some scientific literatures tie each of them to important health risks, while others suggest there is little risk if used as directed—aspartame, better known by the brand names NutraSweet and Equal, isn't likely to be the next glyphosate (aka Roundup) in the world of mass torts. Here, Praedicat executives explain that a determination by the WHO's agency on cancer research as IARC Group 2B rather than 2A could be the key difference maker in the development of litigation claiming aspartame consumption causes cancer.

By Adam Grossman and Sheryll Mangahas

Adam Grossman, Ph.D., is Praedicat's Senior Scientist and Vice President of Modeling.

Sheryll Mangahas is a Senior Bioscience Analyst at Praedicat. As part of the Modeling team, she manages company and bioscience analyses.

In March 2015, the World Health Organization's International Agency for Research on Cancer (IARC) designated glyphosate, the active ingredient in Roundup, as "probably carcinogenic to humans" (Group 2A). Within months, the first lawsuits were filed seeking to hold glyphosate patent holder Monsanto responsible for injuries in people exposed to glyphosate.

Glyphosate was one of the most popular herbicides at the time, making it easy for opportunistic lawyers to find people with high exposure, and nearly every filed complaint referenced the IARC decision naming it as probably carcinogenic.

In what would turn out to be a riskier business decision than they thought, Bayer acquired Monsanto in 2018 while initial glyphosate cases were already pending. By the end of 2019, juries in two trials awarded plaintiffs $289 million and $80 million in cases where they alleged glyphosate caused their cancers. Damages in those cases were reduced on appeal to $21 million and $25 million, respectively. In 2020, Bayer settled the majority of the glyphosate litigation for $10 billion.

Fast forward to 2022—IARC announced that it would issue a carcinogenicity determination on another chemical with broad exposure: aspartame, one of the most commonly used non-nutritive sweeteners.

Like glyphosate, aspartame has a history of controversy that began not long after the FDA approved it as a food additive. Concerns about its health effects have lingered, at least in some circles, since the 1970s, and the scientific investigations showing aspartame's safety for human consumption have done little to alleviate them. Perhaps some of the suspicion stems from the fact Monsanto owned the original manufacturer of aspartame from 1985 to 2000. (Editor's Note: Monsanto acquired Searle, the maker of NutraSweet, in 1985; PE firm J.W. Childs bought Nutra-Sweet in 2000, according to online reports.)

When IARC announced it would evaluate aspartame's

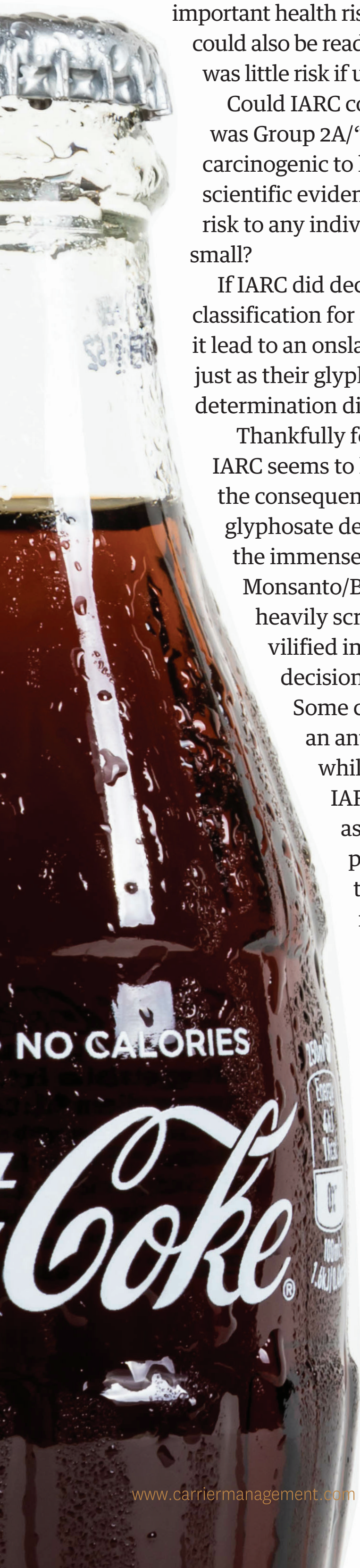
carcinogenicity, alarm bells rang at Praedicat that it could be a repeat of the glyphosate situation. Both chemicals had a history of controversy and scientific literatures that could be read to suggest there were important health risks from them but could also be read to suggest there was little risk if used as directed.

Could IARC conclude aspartame was Group 2A/"probably carcinogenic to humans" despite scientific evidence suggesting the risk to any individual was, at most, small?

If IARC did decide on a Group 2A classification for aspartame, would it lead to an onslaught of lawsuits just as their glyphosate determination did?

Thankfully for all involved, IARC seems to have taken note of the consequences of its glyphosate decision. Aside from the immense cost imposed on Monsanto/Bayer, IARC was heavily scrutinized and even vilified in many circles for its decision on glyphosate. Some claimed IARC had an anti-business agenda, while others derided IARC's determinations as meaningless in practice because they fail to consider real-world risk. It's fair to guess that IARC thought carefully about how to conduct this evaluation and the potential fallout of its determination.

The process IARC followed for releasing its aspartame evaluation appears to have, at least for now, significantly reduced the likelihood of mass litigation claiming aspartame consumption causes cancer. The main change the agency made with aspartame compared to glyphosate is that it coordinated with the WHO agency responsible for regulating food additives: The Joint Expert Committee on Food Additives, or JECFA.



To understand the interplay between IARC and JECFA it is helpful to review the regulatory process governing food additives. Generally, food regulators review the scientific evidence amassed about the safety of a food additive and then determine what a safe daily intake would be after applying a factor of safety. Depending on the intended use of the additive, the regulator may then propose limits on how much of the additive can be used in certain foods. JECFA had previously assessed the safety of aspartame and concluded that a safe daily intake was 40-50 mg of aspartame per kilogram of body weight per day. That equates to at least 15 cans of artificially sweetened beverages for the average adult.

IARC realized that its review of aspartame's carcinogenicity and finding that aspartame belonged in Group 2B could have led the public to distrust the published acceptable intake limits. In a smart piece of public relations, it coordinated with JECFA's pending re-evaluation of aspartame's acceptable intake limits so that they could release their findings together.

In July 2023, their findings and joint statement were released. IARC announced that aspartame is "possibly" carcinogenic—Group 2B—while JECFA reaffirmed its prior assessment that a 40 mg/kg acceptable daily intake is safe. Despite using the exact same literature base, IARC and JECFA arrived at their conclusions using different methods.

IARC reviewed 1,300 studies for its aspartame analysis this past June. It focused primarily on three recently published human epidemiology studies that examined whether artificially sweetened beverage intake led to increased cancer incidence, explicitly deeming consumption of artificially sweetened beverages a good proxy for exposure to aspartame. These studies concluded there was an association between artificially sweetened beverage intake and liver or pancreatic cancers.

IARC also assessed the reliability of the studies and determined that chance, bias or confounding could not be ruled out as an explanation for the association. That led the agency to conclude there was "limited" evidence for a causal relationship between aspartame and cancer in human studies. IARC similarly ascertained there is "limited" evidence from both animal and *in vitro* studies to support an association between aspartame and cancer.

IARC's scoring system then required it to rate aspartame as "possibly carcinogenic to humans." IARC confidentially shared this

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determination with JECFA before the latter held its meeting in early July.

JECFA's analysis focused on studies directly investigating aspartame's biological effects because it found sufficient literature to complete the assessment. For its analysis, JECFA relied heavily on the fact that aspartame does not enter the bloodstream itself. Instead, it fully hydrolyzes in the gastrointestinal tract into its primary metabolites: methanol and the amino acids phenylalanine and aspartic acid. These three substances are common constituents of food and are regularly released by the hydrolysis of many foods.

JECFA noted that blood levels of aspartame's metabolites do not increase after ingestion of aspartame at the current ADI (acceptable daily intake). The committee also declared that the evidence from human and animal studies finding that aspartame is harmful was "not convincing." Finally, JECFA examined *in vitro* and *in vivo* genotoxicity studies, finding that aspartame is not genotoxic (damaging to DNA).

In the end, JECFA opted to retain its current intake limits for aspartame.

It's worth noting that both IARC and JECFA focused on the evidence that aspartame could be carcinogenic in their evaluations. Neither addressed the existing bodies of scientific literature that suggest artificially sweetened beverages could be linked to other kinds of bodily injury.

Some epidemiological studies have shown that increased artificially sweetened beverage consumption is correlated with cardiovascular disease and endocrine system dysfunction, giving those harm hypotheses a stronger scientific consensus than that of aspartame's (or artificially sweetened beverage as a proxy) ability to cause cancer.

We also note that IARC's determination that aspartame should be in Group 2B is consistent with Praedicat's view of the scientific literature consensus.

The coordination between IARC and JECFA helped ensure that despite IARC's finding of "possible" carcinogenicity, one level lower than its classification of glyphosate, the public is unlikely to react with the level of concern it had with its Group 2A designation of glyphosate—despite the Monsanto connection. Of course, this doesn't deter creative plaintiffs' lawyers from perhaps trying to find a way to turn IARC's finding into litigation. But if they do, they will have a less convincing argument than the glyphosate lawyers. CM

'Litigation Harvesting':

The Rise and Fall of McClenny Moseley

Executive Summary: "The story is not really about MMA. It's about what is the extent of investment in illegal schemes to sign up clients in all lines of business."

That's how one insurance lawyer described the saga of the rise and fall of McClenny Moseley & Associates, which has created a hurricane of litigation stemming from the 3,267 hurricane-damage lawsuits that MMA filed in Louisiana federal courts—many against the wrong insurance company or seeking damages for already-settled claims. Those misdeeds have spawned another wave of litigation involving litigation finance investors, mortgage companies, damage estimators and property owners, reports Jim Sams, who has been following the twists and turns in the MMA story in dozens of articles for *CM*'s sister publication, *Claims Journal*, for over two years.

By Jim Sams

In December 2022, before much was known about how Houston's McClenny Moseley & Associates could set up shop in New Orleans—and sign up thousands of Louisiana clients in less than a year—a district court judge shared strong words with the law firm's managing attorney.

"What I'm trying to get you to understand is you have dumped a mess on this court," U.S. District Court Judge James D. Cain told R. William Huye, who had opened MMA's New Orleans office in 2021.

Cain and other Louisiana judges are still trying to clean up that mess.

The 3,267 hurricane-damage lawsuits that MMA filed in Louisiana federal courts forced another wave of litigation—one that spawned lawsuits in both Louisiana and Texas that involve litigation finance investors, mortgage companies, damage estimators and property owners.

Investors, who reportedly loaned the law firm $30 million, sued to get their money back. MMA sued 20 mortgage companies that refused to endorse $20 million in insurer settlement checks. Law firms that took over MMA's cases filed lawsuits to keep MMA from interfering with their work. Property owners sued because MMA's lawyers told insurers that it represented them and filed lawsuits on behalf of "clients" they had never met.

New Orleans insurance defense attorney Matthew Monson said the root of the matter can be traced to the investors who loaned MMA millions to finance the law firm's "litigation harvesting." There is no public record that shows the purpose of those loans. It is known that after securing the funding, MMA paid $13.9 million to an online marketing company based in Arizona called Velawcity for "pre-screened client leads" that cost $3,000 to $3,500 each.

"The story is not really about MMA. It's about what is the extent of investment in illegal schemes to sign up clients in all lines of business," Monson said.

"I think this is the future of how cases are being harvested. The days of an attorney waiting for his phone to ring because of a radio advertisement or billboard are already over."

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Disappointed Investors

Equal Access Justice Fund and the EAJF ESQ Fund, both managed by B.E. Blank in West Palm Beach, Fla., filed a lawsuit against MMA in Harris County, Texas, on Sept. 1. The funds claim the law firm defaulted on a total of $30 million that it borrowed through a series of loans made from September 2021 to November 2022. MMA pledged the attorney fees earned from its cases as collateral for those loans, the suit says.

Judge Cain effectively stripped much of that collateral away on Aug. 22 when he signed an order stating that MMA, because of its misconduct, had no right to fees from any of the lawsuits it filed in the Western District of Louisiana. B.E. Blank filed a motion to intervene in that disciplinary action, but Cain denied it. The investment house has filed a notice that it is appealing to the 5th District Court of Appeals.

B.E. Blank refused to answer questions about its investment in MMA lawsuits. It did issue a statement saying that it strives to partner with law firms that adhere to the highest ethical standards.

"While we do not believe that McClenny, Moseley, and Associates intentionally sought to undermine the Louisiana bar rules, we acknowledge that questions have been raised about the manner in which the firm brought new clients on board," the statement says. "We admittedly don't have all the facts, as our role was to lend funds—not litigate cases."

'Tableau of Misconduct'

McClenny Moseley was a prolific litigator.

Federal court records show that the law firm filed 2,455 lawsuits in the Western District of Louisiana in 2022, with 1,642 of those cases filed from Aug. 23 to Aug. 26—just before the two-year statute of limitations for lawsuits related to Hurricane Ida was about to expire. MMA also filed 656 lawsuits in the Eastern District of Louisiana and 156 lawsuits in the state's Middle District.

Judges in the Western and Eastern districts took notice when they learned that many of those lawsuits were filed against the wrong insurance company, duplicated lawsuits that had been filed by other law firms or sought damages for claims that already had been settled. Cain in the Western District, and Judge Michael North in the Eastern District, discovered later that MMA had not even signed retention agreements with many of the homeowners they purported to represent.

Some of the homeowners had signed contracts with Apex Roofing and Restoration after being solicited by sales representatives who walked door to door in hurricane-damaged neighborhoods. Others were signed up by Velawcity, which sent thousands of text messages and emails to potential hurricane damage claimants that provided a telephone number to a call center staffed by non-attorneys.

U.S. District Court Judge Michael B. North summed up MMA's misdeeds in a March 16 order, saying that the numerous cases that he was forced to clean up because of the law firm's action are an example of what happens "when ego and greed become a lawyers' guiding principles."

"In these consolidated cases, the court and the parties—indeed, our entire legal community—are confronted with an unprecedented tableau of misconduct by a Texas-based law firm, assisted in its misdeeds by an Alabama-based roofing contractor and an Arizona-based, modern-day case runner."

'Illegal Barratry Scheme'

At least three groups of property owners who were caught up in MMA's marketing blitz have filed separate lawsuits seeking damages.

Katherine Monson, the wife of defense attorney Matthew Monson, filed one of them. She filed a class-action complaint in the U.S. District Court in Houston, which also names Tort Network LLC, the owner of Velawcity, as a defendant. The suit seeks damages in excess of $5 million for "unlawful acts of barratry," meaning the improper solicitation of clients.

Another lawsuit filed by lead plaintiff Wayne J. Adams and eight other Louisiana property owners in Harris County court seeks $1.8 million in penalties from MMA and Tort Network as compensation for the "illegal barratry scheme." The lawsuit notes that under Texas law, litigants who are illegally solicited can seek a $10,000 civil penalty for each solicitation.

The third lawsuit was filed by Louis Carter III in the Louisiana 21st District Court in Tangipahoa Parish. Carter alleges that he signed an assignment of benefits form after a representative for Apex knocked on his door. MMA then falsely told his insurer that the law firm was representing him even though Carter had never heard of the firm and preferred to deal with his insurer directly, the lawsuit says.

The lawsuit has been transferred to the U.S. District Court for Eastern Louisiana. Huye, MMA's former managing attorney in New Orleans, filed a motion to dismiss the case on May 17. He argues that Carter signed an arbitration agreement when he signed his assignment of benefits agreement with Apex Roofing.

Damage Estimates

Companies that MMA hired to provide damage estimates have their own disputes with the law firm.

PCG Claims, headquartered in Franklin, Tenn., filed a lawsuit in Harris County on Aug. 21 seeking to recover $9,354,628.46 that it says it is owed for field inspection services. The company said MMA agreed to pay $250 per hour for its services.

Global Estimating Services filed a lawsuit in April against MMA in Harris County court seeking $9,685,862.99 for field inspection services that it provided to the law firm. The company alleges MMA failed to make scheduled payments on the debit.

Global Estimating's parent company, Access Restoration Services, also filed a lawsuit against MMA in Harris County at about the same time. ARS says it loaned MMA $3 million after it was promised a 542 percent return on the investment. Instead, the law firm defaulted, the lawsuit alleges.

Curiously, 17 former field inspectors for GES also have filed a lawsuit in Harris County—but against their former employer. They allege they are owed for overtime and bonuses that were promised but never paid.

Uncashed Checks

While those lawsuits move through state and federal courts, judges in Louisiana have been working to resolve the cases filed by MMA. Toward that end, Judge Cain ordered founding partner John Zachry Moseley to turn over the law firm's financial documents.

Cain called Moseley to his courtroom in Lake Charles on Aug. 8 to answer questions about money held by the firm on behalf of its clients. He noted that MMA was holding on to $20,042,940 in settlement checks from insurers that had not been deposited into trust accounts.

Moseley replied that mortgage companies had refused to endorse the checks. He said MMA has filed 20 lawsuits against mortgage lenders in an attempt to negotiate the uncashed checks.

Federal court records confirm that those lawsuits were filed against multiple mortgage companies. One example is MMA's lawsuit against Bank of America, where it alleges it is entitled to $67,707.66 in fees and $15,800.68 in costs for services provided to eight mortgage holders in Louisiana, Texas and Florida.

MMA said the bank has refused to endorse the settlement checks made out to those homeowners even though MMA provided disbursement statements showing that the firm is entitled to a portion of the money. Bank of America answered that MMA had failed to present it with a valid attorney fee lien.

"I think there's over 900 mortgage companies in the state of Louisiana," Moseley told Cain during the Aug. 8 hearing. "Some were willing to work with us; some were not."

Cain told Moseley that he and his staff will take over the task of disbursing the settlement money.

"I'll probably sort out with the State Bar a mechanism for a trustee to be appointed," he said. "I'll get with the insurance companies on getting these checks reissued."

In the meantime, sanctions against MMA continue to pile up. On Oct. 10, Magistrate Judge Kathleen Kay in Shreveport ordered MMA to pay $8,535.52 in attorney fees and costs to Matthew Monson's law firm. Kay said in her order that MMA filed a lawsuit on behalf of a Louisiana homeowner against Homeowners of America Insurance Co. even though the carrier does not write homeowners policies in Louisiana and did not insure MMA's client, Johnny Venzant.

Monson said other law firms that took over MMA cases are making the same mistake. Court records show that attorney Mark Ladd with the Galindo Law Firm—another Houston law firm that set up shop in Louisiana to take on hurricane-damage claims—filed a lawsuit on behalf of a former MMA client against Homeowners of America for alleged Hurricane Ida damage.

To make matters worse, the plaintiff in the suit is named as Starwood Gwendolyn when her actual name is clearly Gwendolyn Starwood, Monson said. The lawsuit was filed on the two-year anniversary of Hurricane Ida's strike in Louisiana, which means the statute of limitations has now expired and Starwood's claim is now prescribed, Monson said.

"Just like MMA, Galindo law is another Houston-based firm that came to Louisiana to get on the Hurricane Ida bandwagon," Monson said. "Unfortunately, in this instance, they have deprived Ms. Starwood of the right to proceed against the proper insurer." CM

Jim Sams is the Editor of Claims Journal, a sister publication of Carrier Management.

AI: The Claims Industry's Biggest Challenge and Opportunity for 2024

Executive Summary: Artificial intelligence is presenting challenges as well as opportunities for insurers as they seek to embrace innovation, drive efficiency, and even use tech tools to assist with talent recruitment and retention. Claims executives share their thoughts on how insurers can use these tech tools to their advantage while still maintaining the human touch the industry has built its reputation on.

By Elizabeth Blosfield

The claims industry is navigating a lot of change right now in the face of inflation, growing climate volatility and an ongoing talent shortage, but of all the disruptive factors, Lemonade's Chief Claims Officer Sean Burgess says generative AI is the biggest.

"Let's call out the biggest one for any industry, and that's generative AI," he said.

"The world is rapidly growing and changing—the insurance world included—and if you don't lean in, carriers will miss out."

Sean Burgess, Lemonade

"Simply stated, everything is changing… everything."

He added that each component of a claim, whether it's first notice of loss, investigation, negotiation, settlement or payment, will likely be impacted by generative AI in ways the industry hasn't quite grasped yet.

"The speed, accuracy and efficiency it is bringing is like nothing the industry has experienced," Burgess said. "You don't want to be the ones left behind here, that's for sure."

Kevin Rampe, executive vice president and head of North America Claims at Chubb, said the greatest opportunities he sees for AI in the claims process are centered on data and technology, with the ability to use data to better handle claims and drive the best outcomes.

"The main benefit is our ability to meet the policyholder where they are, to meet their needs and to ensure that we can do it in a way that reflects their lifestyles," he said. "If they want to submit a claim digitally, then they can. If they want to talk to somebody, they can talk to somebody."

Rampe said AI can be used to ask the right questions and introduce new efficiencies into the process by leveraging consumer data.

"We can move claims through the process more efficiently and help our claim professionals to focus on what we want them focused on, which is the claim, the adjudication and high-end customer service," he said. "A lot of the other tasks can be handled by the technology and using artificial intelligence."

Insurers can feel bogged down by the large amounts of data in the industry, both publicly available and internally within carriers, leading them to take a broader brush approach to addressing risk management in some cases, said Eric Sanders, chief claims and risk solutions officer for QBE North America.

"There's too much data for a human to process," he said. "But if you put AI on it, AI can help act like a funnel where it takes all of the data, and ultimately, it boils it down so that you can be more precise on where you aim your human efforts to drive risk mitigation."

Frank Sapio, regional head of claims in North America for Allianz Commercial, agreed that there is much opportunity in the industry to improve upon and make use of the data with the help of AI.

"I have roughly 300 employees, and if I give them a loss description and ask them to pick the appropriate loss code out of a list of 50, I will likely get 20 different answers with half the people picking 'other,'" he said as one example. "AI offers the ability to apply the collective knowledge of the organization to get to one code, which underwriters can then use to make better underwriting decisions."

Sapio also sees AI being used to constantly scan existing losses and make reserve changes based on changing information within the individual claim file or in response to market forces, like inflation.

"Of course, we are not there yet, and it will take some time to get to that level of sophistication," he said. "We will get there."

Data, Data, Data

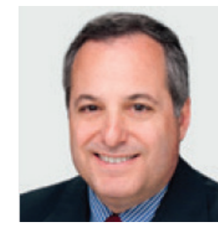
However, while most experts see AI as one of the biggest opportunities in the industry, it also can be the industry's greatest challenge.

"For organizations, the immediate issue I see is data, data, data," Sapio said. "AI and predictive analytics rely on clean data to learn. In my 30-plus-year career, the data that I have seen amassed has been anything but clean and complete. There are multiple reasons for this, ranging from simple human error in entry to failing to capture the information. Additionally, you have multiple legacy systems that have been replaced with new systems, and the data migration between them is a nightmare. If your data is incomplete, inaccurate or replete with bias, then your output will contain the same issues."

He said for claims professionals, it's important to ensure the data being used to train AI is clean and the technology is implemented responsibly across an organization.

"I would be very wary of the technology until it has proven itself reliable, and

"At the end of the day, even with all of the shiny new toys, this is still a people business."



Frank Sapio, Allianz Commercial

even then, it will still have to pass the common sense test," he said. "Applying common sense and oversight will be critical as we bring on new technologies."

While AI has the potential to solve many fairness issues seen in the industry today, Burgess added, it also has the ability to intensify these concerns if not leveraged carefully.

"As we continue to train and build AI into our products, we need to ensure our own conscious and unconscious biases are not incorporated," he said.

Striking a balance between what can be automated and what needs to retain a human touch is critical as claims professionals move forward with new technology, according to Nandini Mani, executive vice president and head of Claims for Oversees General Insurance at Chubb.

"We don't think everything needs to be automated. If it doesn't actually improve the service proposition, it's not worth it," she said. "We can't forget what we do. We are here to adjust the claim. We are here to get to the right result, and we look at everything with that eye. So, AI is a tool."

"It's not a substitute. At the end of the day, we have incredibly experienced people who handle these claims and bring value to the process, and I don't see AI being a substitute for that, but AI can help speed the process along," she added.

Rampe urged insurers to remember that at its core, insurance is a people-focused business. "It's all about that human

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"If you're not embracing it, you're going to fall behind. And it can be powerful if it's used in the right way."

Eric Sanders, QBE North America

"The main benefit is our ability to meet the policyholder where they are, to meet their needs and to ensure that we can do it in a way that reflects their lifestyles."

Kevin Rampe, Chubb

"We don't think everything needs to be automated. If it doesn't actually improve the service proposition, it's not worth it."

Nandini Mani, Chubb

connection, and AI can't and won't to be a substitute for the empathy that we're known for," he said.

Investing in Talent, Eliminating 'Brain-Drain'

One way insurers can utilize AI to retain the human touch within their business is in the talent acquisition process, the experts said.

"I believe the war for talent will continue into 2024," Sapio said. "We are seeing a slowdown in turnover, but the candidate pool is still very shallow for specialized talent. The industry has to do a better job of bringing in young, diverse talent to rebuild a workforce that is aging."

David Lovely, chief claims officer at The Hanover Insurance Group, said at a time when many experienced professionals are retiring, AI and technology-based tools can help compensate for the "brain drain" carriers may be experiencing. It also can be leveraged to shorten the learning curve for early-in-career employees, accelerating the development of claims talent and making the job more attractive.

"AI and technology-based tools allow for faster, better and more consistent decision-making and have the potential to be used on more intricate customer-facing solutions in the future," he said.

"These tools allow us to be more responsive to our customers, focusing more energy on value-added claims management and less on administrative tasks."

Lovely said this approach to digitization can help address specific customer pain points and efficiency opportunities, while at the same time strengthening the diversity of thought in organizations through greater inclusivity.

"There is a great opportunity in leveraging empathy to deliver a better claims experience and help claimants navigate complex processes," he said. "We can identify additional ways to simplify processes and customer journeys, using what we call 'smart digitization' to improve the customer experience and drive efficiency."

All of this, in turn, can help attract new talent and create new opportunities in the industry for those who have the skills to utilize AI within customer service and claims management.

"Ongoing industry education and rewarding compensation strategies can help retain the top talent," he said. "As an industry, this is an opportunity to take a close look at the culture, benefits, work environments and recruiting efforts to ensure we're meeting the needs and desires of employees across all generations. Similarly, building and fostering a strong culture within claims organizations is critical."

'This Is Still a People Business'

Whether it comes to talent acquisition, customer service or the use of data, Lovely said generative AI holds the promise of revolutionizing claims, but there is much to learn before insurers jump in feet first.

"Of course, it can be scary," Sanders added. "But again, if you're not embracing it, you're going to fall behind. And it can be powerful if it's used in the right way, in my opinion. That doesn't mean just send it off on its own to do everything that a human does. It's really more about how you position it to assist so that we can do our jobs better."

Burgess agreed.

"The world is rapidly growing and changing—the insurance world included—and if you don't lean in, carriers will miss out," he said.

That said, Sapio offered his advice that no matter how technologically advanced the industry becomes, insurers should always retain their people-first mindset.

"Focus on your people, get them ready to take on the challenges and opportunities that are sure to come in 2024," he said.

"Investing in your people to build a motivated, disciplined and well-trained workforce allows you to overcome many obstacles in your technology and processes. At the end of the day, even with all of the shiny new toys, this is still a people business." CM

Cats Where They Shouldn't Be:

'A Whole New Challenge' for Claims Pros

Executive Summary: "While hurricanes often allow time to prepare and marshal resources, more common catastrophes such as convective storms, wildfires and freezes offer little to no warning."

That observation from Allianz Commercial's Frank Sapio echoed other claims professionals interviewed by CM Deputy Editor Elizabeth Blosfield. They all rank catastrophe claims response as one of their biggest challenges, now complicated by the proliferation of non-modeled events occurring in places where cats just didn't happen before.

By Elizabeth Blosfield

The number of global climate catastrophes and weather events costing at least $1 billion reached 23 in 2023, eclipsing the record of 22 set in 2020, according to the National Oceanic and Atmospheric Administration.

NOAA announced the record-breaking figure through the end of August with four more months yet to play out this year.

Insurance professionals say the growing frequency, severity and unpredictability of weather events is leading to instability in the claims industry.

"It's more difficult to stage adjusters in the right areas because a lot of times, these catastrophic events happen in areas that never had a catastrophe before," said Kevin Rampe, executive vice president and head of North America Claims at Chubb.

"Making sure that we give our people the right kind of rest and ensure that they have the right kind of workloads, that they're able to respond quickly to these events, is critical," he said.

Nandini Mani, executive vice president and head of claims for overseas general insurance at Chubb, added that ensuring the right resources and standards of service are available to customers in geographic locations that haven't historically seen a lot of natural catastrophes is "a whole new type of challenge for us."

Eric Sanders, chief claims and risk solutions officer for QBE North America, noted the growing challenge in areas where claims professionals are used to responding to catastrophe events—as more assets are built in disaster-prone areas, creating more exposure. Like the others, however, he said that even outside of the typical geographic locations, there is more vulnerability than in the past, which makes modeling difficult.

"With hurricanes, we model them. We can kind of track them. It's pretty well-documented," he said. "The other challenge, though, is with the other stuff that we're seeing—the freeze events that we've been seeing, the convective storms that we've been seeing. Those are proving really challenging and less predictable. It's just a lot of volatility."

Indeed, Frank Sapio, regional head of claims in North America for Allianz Commercial, said that while hurricanes often allow time to prepare and marshal resources, more common catastrophes

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> "While no one can imagine a repeat of 2023, weather-related claims and the frequency and severity of cats remains a concern in 2024."
>
> **David Lovely, The Hanover Insurance Group**

Economic and Social Inflation:

Insurance Claims Execs Preview 2024 Trends

By Elizabeth Blosfield

In its Global Economic Outlook report for 2023 through 2025, Allianz reported that the company expects global inflation to fall to 4.3 percent in 2024, down two percentage points from 2023 levels. Despite some experts predicting disinflation next year, the current environment still challenges insurers.

"Insurance is an industry that heavily relies on predictability, and inflation introduces uncertainty into the equation, which is never good," said Frank Sapio, regional head of claims in North America for Allianz Commercial. "As inflation rises or sinks, reserves become less accurate, which impacts the bottom line."

During periods of rapidly changing inflation, Sapio said claims department are often adjusting case reserves while actuaries are adjusting bulk reserves. "It is a complex process that takes a lot of communication between all involved," he said, adding that on top of this, increased rates for insureds can lead to higher service-level expectations.

"If I am paying more for my insurance, shouldn't I get better products and services?" he said. "From a consumer perspective, I can see the connection, but it just doesn't work that way."

Kevin Rampe, executive vice president and head of North America Claims at Chubb, said more properties could be at risk of being underinsured because property owners haven't factored in the cost of inflation.

Beyond property, "we're also seeing the impacts of inflation in casualty, and really, across the board," he said. "I don't think there's a category of casualty that isn't impacted."

Sapio agreed that all lines of business will likely see an impact, adding that standard property and marine lines come to mind first due to increased material costs and longer periods of restoration. But errors and omissions and general liability have been heavily impacted due to the increase in legal defense costs, he added. "I cannot think of a line that has not been impacted by some form of inflation."

Indeed, beyond economic inflation, another form—social inflation—is a topic that has increasingly caused challenges for insurers, experts said.

> "That litigation environment is starting to bleed into some of our bigger countries [outside the U.S.]. We're keeping a very close eye on it."
>
> **Nandini Mani, Chubb**

"The 'social' aspect of the term represents shifting social and cultural attitudes about who is responsible for absorbing risk (the insurer or the plaintiff)," according to a report on National Association of Insurance Commissioner's website. "The varying demographic makeup of jury pools, an increasing public distrust of large corporations, and the influences of social media and legal marketing can all influence jury verdicts and awards."

"There is an unbelievable amount of social inflation in our casualty book, and we're seeing this everywhere," Rampe said. "Courts are awarding damages and verdicts that were previously unheard of, and we are seeing that pressure increasing exponentially."

According to the NAIC, the lines of business most affected by social inflation include commercial auto—particularly in the trucking industry—professional liability, product liability, and directors and officers liability insurance.

"While North America sees a lot of social inflation, I just want to note that we're starting to see it outside of the U.S., too," said Nandini Mani, executive vice president and head of claims for overseas general insurance at Chubb. "That litigation environment is starting to bleed into some of our bigger countries, and we're keeping a very close eye on it."

David Lovely, chief claims officer at The Hanover Insurance Group, said that growing trends toward litigation funding and more frequent nuclear verdicts "will continue to complicate the liability claim arena and drive up those costs" in the new year. CM

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such as convective storms, wildfires and freezes offer little to no warning.

"This makes it difficult to properly staff," he said. "We rely on strategic partnerships with independent adjuster firms to supplement our own staff to ensure we have enough boots on the ground to service our customers. That said, the IA firms have had as much trouble as we have with staff turnover and dwindling talent pools, which is a major challenge."

Another challenge is finding qualified contractors and materials to finish repairs in a reasonable time frame with ongoing supply chain constraints from the height of the COVID-19 pandemic, he said.

"It has gotten better since the pandemic ended, but it is still an issue, which is compounded by the frequency of cat activity," he said. "This drives up costs for business interruption in addition to labor and materials."

QBE NA's Sanders said all of this is contributing to a lack of predictability when a catastrophic weather event strikes and in the aftermath with recovery.

"From a claims standpoint, it's just a pure operational discussion," he said. "And with the volatility, it's not as predictable. It's not like next Tuesday you're going to have this claim to handle. They happen when they happen, and you've got to be there. So, that's a challenge. The predictability to me is probably the biggest challenge we face as an industry because if you can't predict what's going to happen, it's hard to do all the other things that an insurance company needs to do. We need to be there for our customers."

Sanders said that insurers need to work to understand the risks with as much precision as they can and provide capacity so that there's insurance available in a time of need.

"I always like to say we're the economic first responders...We are the backbone of the economy by spreading risk," he said. "And so, whether you're a business or whether it's personal insurance, having insurance there to help folks get through disasters is really important."

Part of this, he said, means embracing the innovation that is happening in the industry and experimenting with new solutions to drive resiliency.

"That's really our buzzword or how we like to look at all of this," Sanders said. "You've got to drive resiliency, and that means resiliency for your customers so that they can respond better, so that they can prevent risk, and preferably, they can build stronger. That's one spot where you see the innovation. You have to drive resiliency for the market. You've got to drive resiliency for your balance sheet so that carriers can be there in a time of need."

Sapio at Allianz added that in an industry that is as regulated and mature as insurance, resiliency is achieved through efficiency and innovation as well as disciplined risk selection and pricing.

"It all ties together to make an organization survive and thrive in the face of adversity," he said. "For claims, this means that we must be constantly scanning the environment for new threats and trends, but more importantly, we have to react quickly to counter the threats and capitalize on the positive trends."

This is especially important as insurers begin to look toward a new year, said David Lovely, chief claims officer at The Hanover Insurance Group.

"While no one can imagine a repeat of 2023, weather-related claims and the frequency and severity of cats remains a concern in 2024," he said.

In addition to innovation, another piece of the resiliency puzzle is collaboration, Sanders said. He added that this means insurers will need strong partnerships with their customers, regulators, business partners and communities.

"Climate change is not just an insurance issue, it's an *us* issue," he said. "So, I think that for claims, it's about being that strategically enabled partner...Handling claims well is table stakes. Claims professionals have a lot of expertise in the problems that we're facing, so I think part of this is claims professionals shouldn't discount their ability to be part of a solution." CM

"We rely on strategic partnerships with independent adjuster firms to supplement our own staff to ensure we have enough boots on the ground to service our customers. That said, the IA firms have had as much trouble as we have with staff turnover and dwindling talent pools, which is a major challenge."

Frank Sapio, Allianz Commercial

Workers Compensation:

Waning Benefits From Decreasing Opioid Rxs

Executive Summary: The majority of excess or unnecessary opioid prescribing appears to have been wrung from the workers compensation system, analysts at Assured Research have found, based on an analysis of data from a series of reports from the Workers Compensation Research Institute and industry loss trends. Here, Assured Research President William Wilt reveals the impact that changing prescribing patterns has had on workers comp ratemaking and loss reserve adequacy, advising actuaries to carefully watch prescribing patterns going forward in order to avoid mismatches between their historical experience period and current practices.

A version of this article was originally published in the October Assured Briefing for subscribers to Assured Research reports. The article is being republished by *Carrier Management* with permission from the author.

William Wilt is President of Assured Research LLC, a research and advisory firm focused exclusively on the P/C insurance industry. Reach Wilt at william.wilt@assuredresearch.com.

By William Wilt

Workers compensation has been a profit juggernaut for the property/casualty insurance industry over the past several years.

Underwriting profits from the workers comp line have accounted for the entirety of the industry's profits from underwriting over the past decade. If those profits begin to dry up, many companies will feel it.

There are several worrying trends that could conspire to shrink workers comp underwriting margins going forward. Among them: a rising medical trend line; a narrowing gap between wage and medical inflation; and reserve redundancies (at nearly 15 percent of workers comp premiums in recent years) that will decline if the medical trend line continues to rise. We reviewed these possibilities in our September Assured Briefing.

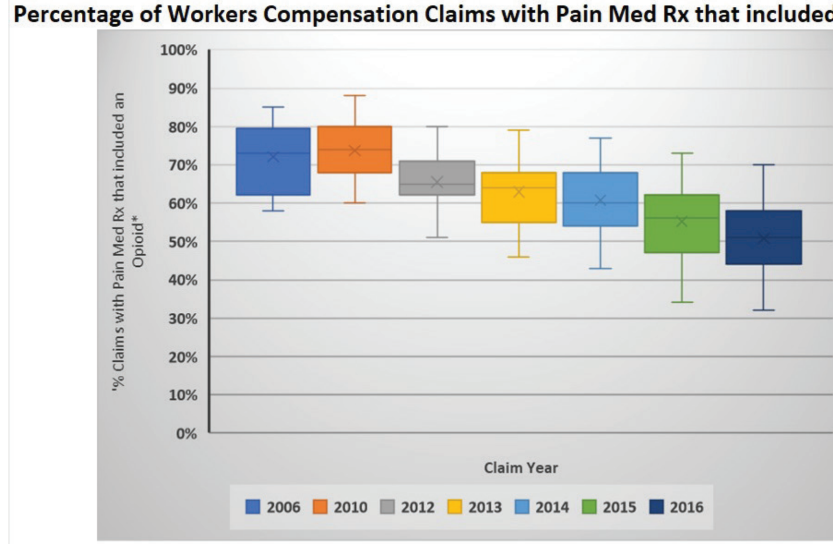
Here, we turn attention to another trend that could push workers comp underwriting results in the wrong direction: changes in prescribing patterns for opioids in workers comp claims. A rapid deceleration in the frequency of opioid prescriptions during the years 2010-2018, and a similar sharp drop in the dosage intensity of opioid prescriptions during those years, is leveling off. While not the entire story, there's little doubt that the precipitous decline in opioid prescriptions had a positive impact on workers comp results in recent years. Carriers and their actuaries need to be careful to analyze any stabilization—or reversal—of this key driver of past improvements in workers comp results as they develop loss cost projections into the future.

Our Findings Are Straightforward

Our analysis of opioid prescription frequency, projected vs. realized loss costs in recent years, and workers comp loss reserve adequacy lead us to a central conclusion: The claim benefits of the roughly decade-long effort to decrease the

Figure 1

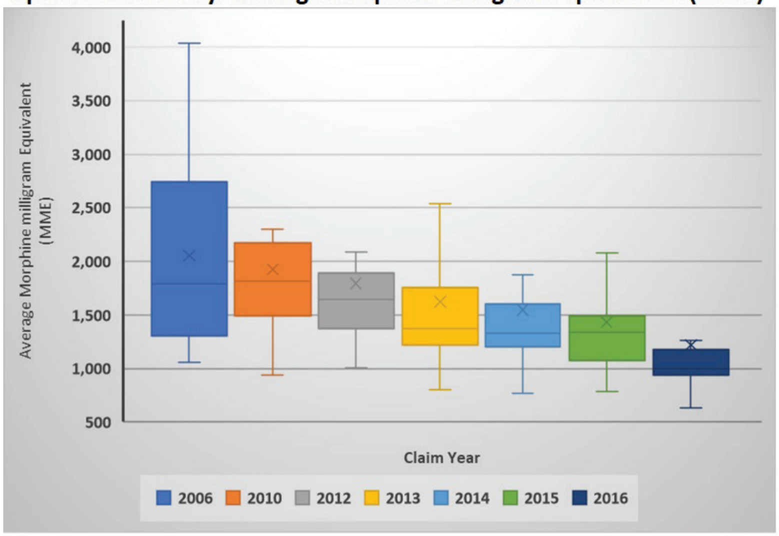
Percentage of Workers Compensation Claims with Pain Med Rx that included an Opioid



Source: WCRI, Interstate Variations in Dispensing of Opioids 1st -5th editions (2011-2019), Assured Research

Figure 2

Opioid Rx Intensity: Average Morphine Milligram Equivalents (MME)



Source: WCRI, Interstate Variations in Dispensing of Opioids 1st -5th editions (2011-2019), Assured Research

use of opioids in workers comp claims is now in the eighth inning or so.

That matters because research conducted by the California Workers Compensation Institute and the Workers Compensation Research Institute have found that the lost time and overall cost of claims with material opioid prescriptions are multiples higher than claims where opioids are either avoided or used in moderation. We note that these and other similar studies warrant careful citation of the parameters studied (e.g., as to measurements of opioid Rx, type of injury, lost time, claims costs, etc.), which we have omitted here. Still, the takeaways are clear and consistent across studies: Claims with opioid Rx cost materially more than claims without.

With thanks to the WCRI for the assistance in harnessing their many reports over the past decade, we extract WCRI data related to the frequency and intensity of opioid prescriptions below, supporting our conclusion. The data relate to opioid prescriptions in nonsurgical claims with at least seven days of lost time across 27 states. The content of the WCRI reports changed after their 2019 publication, so in the accompanying charts (Figures 1 and 2) we show the data from their first five reports, which allows us to track the interstate variability across the frequency and intensity of opioid prescription per lost time claim.

The frequency of opioid prescriptions in workers comp claims appears to have peaked in the late 2010s and decelerated sharply thereafter. (Figure 1)

The same observation applies to intensity, measured as morphine milligram equivalents (MME)/claim to create a consistent measure across different types of opioids. (Figure 2)

Data in subsequent WCRI reports show that the sharp deceleration began to level off around 2019 or so.

WCRI's most recent reports (publication years 2020-2022) provide information on the overall payments for opioids as part of total workers comp payments for prescription drugs. While some information is lost from the earlier studies, it's easy to see that opioid payments declined steadily from early 2016 into the early 2019 timeframe and then decelerated much more slowly thereafter. (Figure 3)

As opioids spending decreased, the spending on NSAIDs (nonsteroidal anti-inflammatory drugs) increased, but only somewhat, along with agents applied

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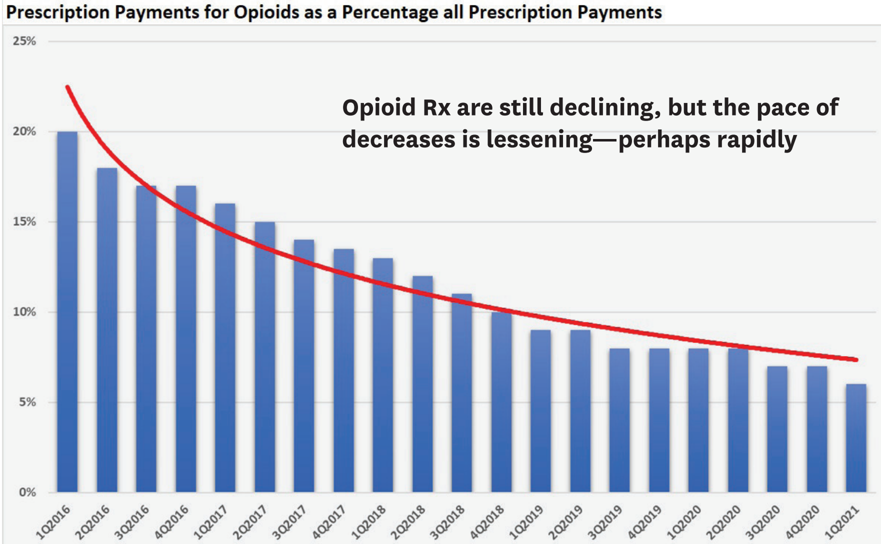
Figure 3

Prescription Payments for Opioids as a Percentage all Prescription Payments



Source: WCRI, Interstate Variation and Trends in WC Drug Payments (pub. 2020, 2021, 2022), Assured Research

topically.

Turning to industry loss data for the workers comp line overall, we note a sharp deceleration in ultimate workers comp losses per private employee from accident year 2010 to 2017/2018. (Figure 4) Like the earlier trends in opioid prescribing, the decline in workers comp losses/employee has halted. In fact, it looks to be reversing.

Ahead of the reversal, there's an insight about workers comp ratemaking during the 2011-2018 years that we can draw from the data. Recognizing that workers comp ratemaking uses a three- or four-year historical experience period to forecast needed premiums, our analysis of the data here suggests that loss costs forecasted for premium projections for those years were much higher than realized loss costs.

Helping the reader to follow our analysis, on the accompanying graph (Figure 4), the black dots represent ultimate loss costs per employee by year (losses include defense costs and containment expenses). The dotted blue line indicates the four-year moving average—a proxy for the four-year experience period used in workers comp ratemaking. (We made no adjustments for trends in indemnity or medical costs or exposures. Ours is a highly simplified example.) As costs inflected downward beginning in 2011, the forecasted loss experience overshot the realized losses through 2017, as evidenced by the dotted blue line being higher than the dots or realized costs.

During those same years, not surprisingly, loss reserve redundancies accelerated. (Figure 5)

In fact, the ultimate workers comp loss estimates from the years 2011-2018 decreased by an average of around 15 percent from their initial estimate to their "final" estimate (where we've used projections from our year-end 2022 Reserve Study).

Putting It All Together

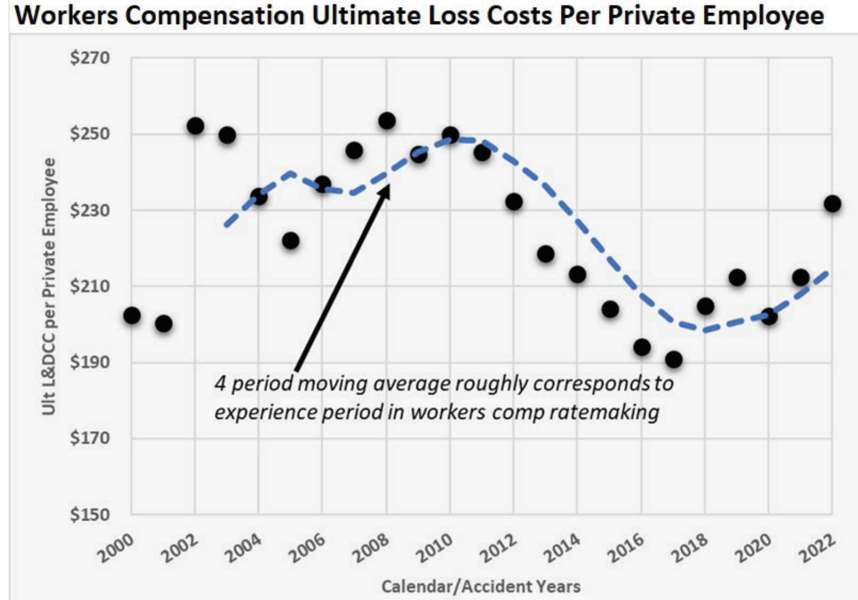
These trends fueled the "workers comp as earnings juggernaut" statement that opened this report, but the rub is that opioid prescribing appears to be reaching a resistance point or is at least no longer declining at anywhere near the pace it did during the 2010-2018 period.

To be clear, we don't know where the resistance point might lie, but it appears the majority of the "excess" or unnecessary opioid prescription costs has been wrung from the system.

If opioid prescription patterns simply glide downward toward some natural resistance point (e.g., we assume some percentage of serious claims will involve the use of opioids), then, in theory, no major mismatches should arise between the experience periods used to set workers comp rates and the practices affecting current loss experience. Risks arise, however, from prescribing patterns that

Figure 4

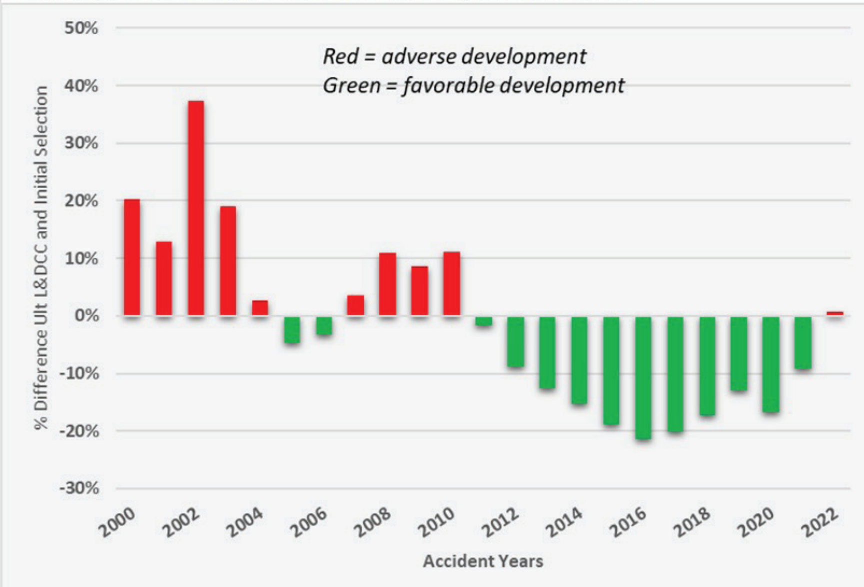
Workers Compensation Ultimate Loss Costs Per Private Employee



Source: 2023 S&P Global Market Intelligence, BLS via St. Louis Fed (FRED), Assured Research

Figure 5

Developed vs. Initial Loss Estimate by Accident Year



Source: 2023 S&P Global Market Intelligence, BLS via St. Louis Fed (FRED), Assured Research

could become too conservative—and then reverse, even if only modestly—or if actuaries bake declining loss costs into a trend that fails to materialize when opioid prescribing reaches its nadir.

Professionals working in and around the workers comp insurance industry deserve our thanks for their role in successfully reversing adverse opioid trends that developed during the early 2000s. The rapid deceleration in the frequency and intensity of opioid prescribing patterns surely had an outsized and positive impact on workers comp claim costs. Multiple studies have documented that between similar claims, the one with opioid prescriptions is likely to cost materially more than one without.

But based on this work, we're inclined to think that the claim benefits from this megatrend are now winding down to an endgame—approaching the eighth inning or so.

What's an Actuary to Do?

What if we're right? Or wrong? Either way, it seems highly unlikely that the recent claims history of any insurer of workers compensation would be unaffected by the trends identified in this article. The situation calls out for a special study of the development patterns and trends of claims with opioid prescriptions separately from those without.

Practicing actuaries will surely be more inventive than we can prescribe in a few short sentences. But at baseline, we suspect any study would start by separating workers comp claims with and without an opioid prescription. Notably, WCRI studies cited throughout this article focused on nonsurgical claims with seven or more days of lost time. Perhaps separating nonsurgical from surgical claims would identify different prescribing behaviors and claim patterns.

Once the claims are separated, we'd recommend examining the development patterns and loss trend (per some exposure base—people or payroll). Actuarial mistakes might be avoided, for example, if the triangle of claims with an opioid prescription shows both decreases in losses/year (fewer opioid prescriptions) and shortening development patterns (as from, perhaps, lower intensity of opioid Rx and faster return-to-work among claimants).

Comparing workers comp claims with a prescription for pain from 2010 to 2016, the frequency of opioid prescriptions declined by just over 20 percent and the dosage intensity was cut nearly in half.

Even if these separated triangles had to be glued back together (if one or both lacked credibility on their own, for instance) the actuary would better understand the underlying trends and could make more informed decisions about the likely behavior of claims in the years ahead.

And insofar as most workers comp insurers employ or contract with healthcare professionals to manage complex claims—talk to them! Surely much could be learned from conversations about prescribing patterns and when, or if, some natural resistance point in opioid prescribing might be reached. CM

Workers Compensation Research Institute

The author of the accompanying article for Assured Research wishes to recognize the work of the Workers Compensation Research Institute—first, for their ongoing analysis of opioid prescriptions in workers comp claims, and second for their willingness to help harness their studies published since 2011.

With the WCRI's help, Assured Research identified and acquired eight studies analyzing the use of opioids in workers comp across publication years 2011-2022 and analyzing the intersection of workers comp claims and opioids back to 2006.

In order to present time series showing the trends in the frequency and intensity of opioid prescriptions in workers comp claims, Assured Research analysts combined data across these studies and take full responsibility for any errors stemming from their efforts to combine data.

Why Totaled Auto Losses Are Hard to Pin Down This Year

Executive Summary: A surge in the use of photo-based AI estimating by auto insurers during the pandemic and after, as well as increases in the number of vehicles declared total losses by insurers, raises the question of whether the two trends are related. Does the accuracy of AI photo damage estimating impact the number of totaled autos? While experts agree the AI tool certainly drives efficiency, the factors driving total loss determinations have more to do with economics and less with technology, they say. And not all data show the number of totaled autos rising either.

By Denise Johnson

Depending on what report you have read, totaled auto losses are up, down or relatively stable.

Ever since the personal auto segment recorded a combined ratio of 112 last year—a figure not seen since the mid-1970s—the property/casualty line has endured increased scrutiny. In response, auto insurers tightened their risk appetites and raised rates to compensate for costlier parts and longer repair times, the result of tech-laden vehicles.

With the goal of reducing loss costs and expenses, one area of focus within the claims process is total loss frequency, a figure that represents the vehicles considered unrepairable. Because artificial intelligence-backed tools are increasingly being used by insurers, particularly photo-based AI applications to estimate damage to autos that result from accidents, it's natural to wonder whether the use of AI tools is contributing to an increase in the number of totaled vehicles.

While it may be easy to point to a rise in total loss evaluations on the expanding use of AI-backed photo damage estimating tools by auto insurers, there are many other factors at play, experts contacted for this article say. A major factor making it difficult to pin down total loss figures has to do with vehicle values.

There is no doubt that AI-powered visual assessment has increased efficiency in the auto damage estimating process. It can assess value based on make and model, the damage sustained, and the cost for parts and labor to repair the vehicle, offering insurers the ability to appraise many more vehicles in one day than ever before.

Within the North American market, James Spears, head of Automotive-Artificial Intelligence for Tractable.AI, said the primary use case is not writing an appraisal. Instead, it is integrating AI within the estimating process, typically for auto insurers with direct repair programs. Estimates and photos are submitted by auto body shops to the insurer for review. Within seconds, AI assesses the damage and reviews the estimates, expediting the appraisal process.

"So, what you now have is a very integrated process where a shop is able to write an appraisal, they submit it, AI looks at it, approves it, gets back to them within seconds and says, 'Let's start the job,'" Spears explained.

Through the vehicle identification number and the photos of the damage provided to it, AI can evaluate the cost to repair versus replace a car.

The process reduces cycle time significantly, reduces or eliminates costs associated with a policyholder or claimant renting a car, reduces or eliminates towing and storage fees, and leads to greater customer satisfaction, said both Spears and Karin Bogenschneider, assistant vice president, Claims Division, for Wisconsin-based West Bend Mutual Insurance.

Spears said in his prior job running USAA's Auto Physical Damage Team, the No. 1 decision was how to accurately assess

"The moment that a vehicle [is deemed] a total loss, two things happen. The consumer...goes shopping for a new car. And at the same time, they generally now shop for a new insurance carrier."

James Spears, Tractable.AI

whether a vehicle was repairable or not.

Kyle Krumlauf, director of industry analytics for CCC Intelligent Solutions, reported that total losses had been elevated during most of the pandemic and are trending up again. Although the use of AI and photo estimating by auto insurers has increased significantly, too, Krumlauf does not see any correlation between an increase in photo-based AI estimating and total losses.

"Our data suggests total loss increases are a result of several factors, including a decrease in used vehicle prices and an aging vehicle population," he said. CCC data indicated the percentage of estimates initiated by photos through 2022 was nearly 30 percent vs. pre-pandemic (fourth-quarter 2019), when photo-initiated estimates were about 16 percent. According to Krumlauf, adoption of photo-based AI estimating accelerated because of COVID-19 shelter-in-place measures.

"The industry began embracing more digital technologies in order to continue to serve policyholders and drivers," he added. "Growth and adoption of AI for estimating and other key decisions has continued based on CCC data."

CCC data also showed that 82 percent of consumers that used a digital experience to manage their claims would do so again.

Experts agree that consumers want to be part of the claims process to gain a better understanding of how repair or replacement decisions are made.

Bogenschneider said West Bend Mutual Insurance has an estimated 75 percent acceptance rate in terms of those willing to move forward using the AI-tool.

According to Spears, vehicles are on the road longer, something that can be attributed to longer loan periods. Instead of 36-month terms, it is not uncommon to see loan terms of 72-84 months. This equates to more older vehicles remaining in the insurance pool because they must have collision and comprehensive coverage during the loan's life.

"There's a much higher correlation–if you're looking for something–of length of loan to being in the insurance pool that

"What's most important is to appreciate the fact that the volume of estimates that will be a candidate for straight-through processing—where there's no human intervention whatsoever—will dramatically go up over the next few years."

Olivier Baudoux, Mitchell International

leads to the fact that you have an insured total loss," Spears said.

Olivier Baudoux, senior vice president of Global Product Strategy and AI for Mitchell's Auto Physical Damage division, seconded the notion that AI photo estimating is not driving more total losses. Instead, he cited soaring new vehicles prices as a factor.

"The decision of repairing a vehicle or deciding to total and replace a vehicle has changed really significantly with the price of...new vehicles going up," said Baudoux. In fact, reviewing the frequency of vehicles being declared a total loss from first-quarter 2019 through third-quarter 2023, along with the average market value of those vehicles, Mitchell found that total loss frequency has decreased in the U.S.–to 18.0 percent in third-quarter 2023 from 20.7 percent in fourth-quarter 2022.

(Editor's Note: Looking at a different time frame, LexisNexis Risk Solutions pointed to an uptick in total losses in its 2023 U.S. Auto Insurance Trends Report, published in May. The firm said its most recent internal data indicated

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that 27 percent of collision claims for the first nine months of 2022 were total losses, up from 24 percent for full-year 2021, attributing the rise to increased auto accident severity.)

Baudoux said AI essentially mimics what a good appraiser would do.

Bogenschneider agreed that factors other than AI use are at play in total loss determinations. "Total losses are up because of vehicle complexity," she said. "It's more expensive to fix a car. Parts are more expensive than ever before. They have thousands upon thousands of microchips inside of them, and all of that costs more money. And so that's why total losses are up."

Deeming a vehicle a total loss is not necessarily beneficial to the insurer. "From a carrier perspective, it's so much easier, so much better for the consumer to fix your car, have a great experience doing it and retain the customer," Spears said. "The moment that a vehicle [is deemed] a total loss, two things happen. The consumer goes shopping for a new car. And at the same time, they generally now shop for a new insurance carrier."

The Future

Though most insurers choose to have adjusters or appraisers review AI-generated photo estimates, Baudoux said that each carrier can assess how they want to proceed—straight-through processing and potentially settling on payment, or whether they want to put some more work toward editing and reviewing an estimate.

West Bend Mutual Insurance reviews AI photo estimates 100 percent of the time, Bogenschneider said. The Wisconsin-based insurer partnered with CCC Intelligence to utilize its AI photo damage estimating tool in early 2020, prior to the pandemic, offering it as an option to policyholders and claimants. The value of the tool became clear to the company after a significant derecho impacted several policyholders. High winds caused a number of trees and power lines to go down, damaging vehicles. The extreme weather event highlighted the danger to

"Our data suggests total loss increases are a result of several factors, including a decrease in used vehicle prices and an aging vehicle population."

Kyle Krumlauf, CCC Intelligent Solutions

policyholders and claims staff, as well as the usefulness of the AI-powered tool.

According to Bogenschneider, it is the work done behind the scenes that makes AI-photo estimating invaluable.

Heat-mapping identifies damage through photos submitted by a policyholder or claimant. The photos typically include the four corners of a vehicle and the VIN.

"Behind the scenes it's creating a build sheet—what the estimate is based on," said Bogenschneider. "Early on, [the estimate] would go to an appraiser to finish and then to a claims adjuster for review and payment. Now the AI tool, based off what it sees, knows to prompt the customer to take more photos," she explained.

Through the photos submitted, the AI tool might determine the damage is severe enough to warrant a total loss designation.

"What AI provides is an extra accuracy in trying to create more consistency in how estimates are being written, removing a little bit of the human judgment and then creating an estimate in a state that would be consistent with how the machine has been trained," Baudoux explained. He added that the machine's training generally comes "from best practices of how the

"It's more expensive to fix a car. Parts are more expensive than ever before. They have thousands upon thousands of microchips inside of them, and all of that costs more money."

Karin Bogenschneider, West Bend Mutual

industry has written millions of estimates over the last few years."

Mitchell has been working on improving AI for the past six years to automate the creation of an estimate, called straight-through processing, so data can pre-populate the entirety of the estimate to the point where there will not be a need for human intervention. Baudoux said that each carrier can assess how they want to proceed toward straight-through processing, indicating it is the future.

He expects the use of AI photo estimating in auto physical damage claims to increase in the future, with auto insurers allowing AI to make decisions as they reduce oversight. "What's most important is to appreciate the fact that the volume of estimates that will be a candidate for straight-through processing where there's no human intervention whatsoever will dramatically go up over the next few years," he said. CM

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More Than an Observer:

Carbone Still Igniting Industry's IoT Passion

By Susanne Sclafane and Guest Authors

The IoT Insurance Observatory is an insurance think tank dedicated to promoting a profitable usage of IoT data in the insurance sector. Over its seven annual editions, the Observatory has aggregated more than 90 insurance companies, including four of the top five reinsurers, 11 of the top 15 European insurance groups, and 10 of the top 15 U.S. P/C insurance groups—and more than 50 tech players.

Allstate, HSB, Nationwide, State Farm, The Hartford and Tokio Marine—the contributors to this special *Carrier Management* edition dedicated to IoT—are current members of the Observatory, and their executives have spoken of their experiences at the peer discussions with all the other members.

There's an image accompanying the next article of this special report showing a closeup profile view of a visionary whose mind is connected to a network of things.

The illustration of this innovator peering into the future was conceptualized by *Carrier Management*'s art director, with the help of AI, to represent the words of the headline, "The State Farm Vision: Ecosystem Capabilities for the Insurer of the Future." And it's a fair representation for the article written by IoT Insurance Observatory Founder Matteo Carbone and State Farm's Vice President of Innovation Haden Kirkpatrick, in which the two authors advise industry peers to adopt platform-based strategies of intercompany partnerships to capitalize on the increasing availability of data from IoT devices and to create seamless customer experiences—basically to emulate the centuries-old carrier that has partnered with ADT and other home ecosystem players as it leans into the future.

But it's a better representation of Kirkpatrick's description of Carbone, guest editor of this section.

"He is a one-man hub for all things insurance innovation. This allows him to see around corners and project the future better than any other thought leader in this space," Kirkpatrick said. "Matteo's network and experience spans the globe...If you want to know where our industry is going (or how we are going to get there), then just ask Matteo and he'll paint you a picture of the future," he added.

Other co-authors had similar insights about Carbone's global connections with all the major players fusing IoT and insurance, his future-focused mindset, and the depth of his knowledge about all things IoT.

"He is omnipresent at the intersection of IoT and insurance," said Dan Campany head of the IoT Innovation Lab at The Hartford. "To do what he does—the number of member meetings and presentations, living on airplanes and hotels—you have to have a deep passion for IoT solutions and hunger for new ideas and insights."

"He has a special talent in bringing together great innovative minds that are pushing our industry forward. Matteo's passion and desire to make an impact in this space make him a trusted and influential voice when it comes to IoT solutions," said Kelly Hernandez, associate vice president for Personal Lines Telematics at Nationwide.

"Matteo is passionate and active about identifying and sharing key trends in the IoT space to companies like Allstate, worldwide," said Susanna Su, vice president of Telematics and UBI at Allstate. "The insights he [has] brought by looking at the world market provide critical thinking and strategic opportunities."

Taken together, Carbone's network of industry experts, his vision of the future, his deep knowledge of a featured subject and willingness to share ideas and experiences would be the perfect combination to steer *Carrier Management* in the direction of inviting him to be a guest editor. But that's not how it happened.

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More Than an Observer

Carrier Management first encountered Carbone around six years ago, speaking at an industry conference about struggles that U.S. insurers were having as they tried to put the concept of marrying data from onboard diagnostic devices to auto insurance into action. We invited him to write his first *Carrier Management* article, "UBI Is a Failure, But Telematics Insurance Is Working Extraordinarily Well," and he delivered an analysis of the success of Italian insurers in delivering productivity (revenue growth), profitability to their organizations, proximity to customers through multiple touchpoints and persistency (customer retention, renewal rate increase)—what he refers to as the Four Ps measure of InsurTech impact.

After later co-authoring a series of wildly popular articles about the lagging KPIs of VC-backed InsurTech carriers Lemonade, Root and Metromile on social media, and offering them to *Carrier Management* to republish, we reached out to Carbone and his co-author Adrian Jones to consider a guest editor assignment on the topic of Insurance Innovation and Strategy. ("Startups Face Off Against Established Players," November/December 2018)

Three years later, Carbone contacted *Carrier Management* with the idea of providing a series of articles about P/C insurance use cases for IoT technology. He basically volunteered to take on the self-imposed herculean task of not just gathering ideas, concepts and potential authors (the usual task of a guest editor) but co-authoring every piece of content in the featured section of the third-quarter 2021 magazine, titled "Insurance Is Getting Connected: IoT Arrives in Insurance." He did this after having spent 10 months collaborating with Isabelle Flückiger, director of new technologies and data for The Geneva Association, to research and interview more than 100 players and thinkers in the IoT space to produce the Geneva Association report, "From Risk Transfer to Risk Prevention: How the Internet of Things is reshaping business models in insurance."

Matteo Carbone

"It does not matter in which time zone Matteo is. When the audience needs him, he devotes his time even in the middle of the night. When the customer requires new insights, he delivers on time," wrote Flückiger in a summary of the lessons she learned collaborating with him.

The insights of all Carbone's co-authors make us wonder a little about his official title, "Director of the IoT Insurance Observatory." Online dictionaries define an observatory as "a facility for observing or monitoring environmental conditions or phenomena on Earth or in space."

Clearly, Carbone isn't simply an observer. You can compare the accompanying photo of Carbone in action, proselytizing about the insurance future of proactively preventing risks, with an AI-generated illustration of an observer of technology advances (p. 37) to start to appreciate the difference. In his own proactive style, he became guest editor for this edition because he reached out—again—volunteering for the extraordinary task of gathering six carrier innovators and co-authoring six articles about their IoT wins to date and visions for the future.

"I believe in the education of the sector. It is relevant to show how these ideas are not due to an exotic and temporary enthusiasm but are the results of years of lessons learned in different insurance domains," he wrote in an email at one point during our production process.

"Over the course of the past eight years, we have engaged in numerous discussions about this visionary outlook, the strategy essential for its realization and the requisite competencies that must be cultivated within the industry," he said, stating the mission of the Observatory.

Making More Connections

In this collection of articles, for which our regular editors have chosen the cover title "Making More Connections: Innovating for an Insurance IoT Future," Carbone and his co-authors describe how the prototypical underwriter, inspector, claims adjuster or insurance risk management expert—the "clipboard guy" on our cover—is progressing toward a "Connect and Protect" future, where ubiquitous sensors and the insights they generate allow insurers and customers (and sometimes the devices) to proactively manage and reduce risk.

The articles describe more insurers finding more ways to incorporate the Internet of Things into different lines of business and different parts of the insurance value chain than our prior "Getting Connected" edition did, with many moving beyond the discount-only approaches for auto—now delivering expanded value to personal auto insurance customers and innovating in non-catastrophe property, commercial auto, workers compensation.

Still, Carbone isn't likely to rest anytime soon. On the flipside of a smart home vision at State Farm, enhanced customer engagement at Nationwide and Allstate, and real-time risk mitigation and behavior modification activities at Tokio Marine, The Hartford and HSB, there are still also-rans. Full realization of the promise of IoT across the industry is still a future event.

"We see the industry at an important inflection point. While great progress has been made, the tipping point of insurance IoT has not happened despite its proven impact and diverse value propositions," Carbone and HSB's Gordon Hui write in an article about HSB's evolution in risk prevention with IoT, which ends with a must-read clear outline of the "strategy essential for [industrywide] realization" of the future vision that the IoT Insurance Observatory promises. CM

The State Farm Vision:

Ecosystem Capabilities for the Insurer of the Future

Executive Summary: Back in 2015, in his first viral insurance innovation article ("Will Fintech newcomers disrupt health and home insurance?"), IoT Insurance Observatory Founder Matteo Carbone provoked the insurance sector, urging stakeholders to delineate their levels of ambition and their roles in the home and car ecosystems, and to identify ways of cooperating with other ecosystem players with like aims of creating services around an integrated set of customer needs.

At a recent conference, Haden Kirkpatrick, VP of Innovation at State Farm, described how the 101-year-old carrier has embraced a visionary outlook to sustain—and expand—its relevance to customers who, in Kirkpatrick's words, "now expect their insurers to understand them as well as Google and to deliver products and services as efficiently and cost-effectively as Amazon, all in a curated Netflix-style queue."

This article describes State Farm's existing relationships with ADT and other home ecosystem players, and future ecosystem capabilities for the insurer of the future.

By Haden Kirkpatrick and Matteo Carbone

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A century-old insurer is evolving to help people manage the risks of everyday life, recover from the unexpected and realize their dreams in an increasingly hyperconnected world. The State Farm innovation journey extends beyond insurance products and into the ecosystems of connected things surrounding them.

State Farm's challenge lies in meeting customers where they are against evolving consumer expectations—expectations that have undergone profound transformations over the last two decades. Consumers expect an experience delivered in a fashion as seamless and elegant as an Apple product, that understands them as well as Google, and is delivered as efficiently and cost-effectively as Amazon, all in a curated Netflix-style queue. (Guest Editor's Note: Kirkpatrick spoke about this at the Future of Insurance USA 2023 conference. His presentation conveyed a palpable sense of urgency regarding the imperative evolution of the industry to the hundreds of insurance executives in attendance.)

The insurer of the future should adopt a mindset, approach and positioning more akin to that of a big tech company than a traditional insurance provider. Consequently, even in the realm of insurance, technology will emerge as the predominant catalyst for the realization of insurers' strategic objectives (as prophesied in co-author Carbone's 2017 book, "All the Insurance Players Will Be Insurtech").

The insurer of the future is expected to sustain its historical relevance with customers, as it has for many years in the past. As the IoT and its corresponding data expands, adopting a platform-level approach will be critical to putting insurers in a position to become a more integral and frequent presence in daily lives, providing value beyond the insurance policy alone. (Related textbox, "Platform-Based Approaches," p. 42)

By actively engaging with the interconnected ecosystem of assets surrounding the risks covered by an insurance policy, the industry may gain a better understanding of customers' holistic needs and provide tailored experiences to help fulfill them. Forward-looking entities can then actively participate in the collaborative development of solutions within these ecosystems, allowing for elegant and seamless integration into the IoT space.

Connected cars, connected homes and connected self are at the heart of this vision for the future. State Farm is committed to progressing in these spaces as it looks toward the next hundred years of industry leadership. In preparation, it has worked to develop one of the largest usage-based insurance (UBI) initiatives in the industry. Its innovation endeavors are concentrated on fortifying its competencies within these realms, especially leaning into smart homes. State Farm is keen on the smart home and what it means for the carrier's business.

A Deeper Dive Into Smart Homes

Homes are rapidly evolving into sensor-rich environments. This overarching trend is not transient; rather, it is a fixture of the future. Insurers must adapt to this reality and determine how to navigate an environment where a substantial portion of the properties in their insurance portfolios will be connected.

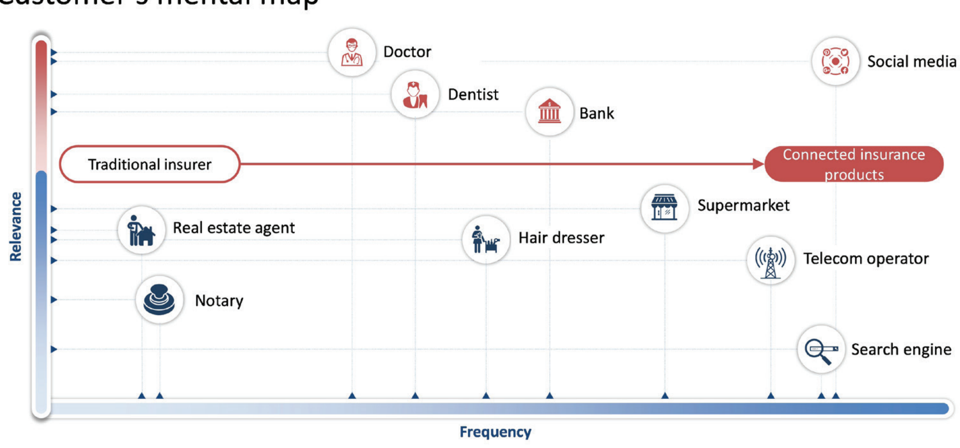
Nevertheless, the majority of gadgets are not necessarily developed with insurance integration in mind. To be effective, insurers require adequate insight for understanding—and potentially mitigating—risks and effectively engaging policyholders.

To truly transform their business operations, insurers must formulate a vision and strategy for the implementation of IoT, along with a practical path to data utilization. A smart home strategy is imperative to systematically identify customers, craft value propositions tailored to the unique requirements of each segment, establish IoT use cases to support these value propositions and execute effective go-to-market plans.

Customer benefits may include fewer disruptive claims and access to solutions that aim to mitigate losses from things like fire, water damage or intrusions. These innovations can serve as the next stride into the future of home insurance by improving the value proposition for homeowners.

Over the past seven editions of the IoT Insurance Observatory, peer-to-peer discussions between members such as State Farm have highlighted the results obtained using IoT data in both personal

Customer's mental map



Source: State Farm Mutual Automobile Insurance Company

Source: State Farm Mutual Automobile Insurance Company

and commercial lines.

IoT can be harnessed at various stages of the homeowner insurance value chain, bolstering the insurer's capacity to evaluate, mitigate and transfer risks. It also can play a pivotal role in fostering customer engagement and retention. Moreover, it helps to provide more comprehensive insights into risks.

Enhance Customer Experience

Smart home technology has the potential to forge novel homeownership experiences and strengthen customer relations. This constitutes a relevant motivation for embracing IoT in the realm of home insurance. Meaningful interactions with customers have been demonstrated as an effective means to cultivate greater loyalty and differentiate from competitors.

These concepts are highlighted by State Farm's relationship with ADT. In September 2022, the insurer unveiled a $1.2 billion equity investment in ADT Inc., along with the creation of a $300 million opportunity fund. Their strategic collaboration provides a glimpse of what the future of the smart home ecosystem may look like for insurers.

In March of this year, an exclusive offer was launched for State Farm customers, where new and existing eligible homeowner customers in participating states are able to buy an ADT home security system, including professional installation, for no upfront cost—and with significant savings on monthly monitoring costs. Program integration also allows customers without an existing security system discount to receive a discount on their home insurance premiums. A strong belief in the opportunity paired with positive customer sentiment has led to rapid program expansion, reaching 13 states by the end of the summer with more on the way.

In the spring of 2023, State Farm obtained a patent for an IoT-driven claim process. This innovative approach may create efficiencies for policyholders and may also provide insights to the claim handler to support them in better serving the customer.

Impact the Core Insurance Processes

In addition to its work with ADT, State Farm has partnered with Whisker Labs to help prevent fire losses. Whisker Labs' Ting smart plug monitors a home's electrical wiring to detect common electrical issues that can lead to fires. When a risk is detected, Whisker Labs notifies the customer, helps them locate the potential hazard and—when necessary—coordinates with a licensed electrician to get the issue resolved.

Central to the State Farm vision for smart homes is the aspiration to transition from recovery to the ability to help predict, intercept and prevent losses, relying upon products like ADT and Ting. This vision about evolution of the insurance promise, which was explored in the 2021 *Carrier Management* special feature, "Insurance is Getting Connected," has garnered the embrace of an increasing number of carriers worldwide with each passing year.

Haden Kirkpatrick is the Vice President of Innovation at State Farm.

Matteo Carbone is the Founder and Director of the IoT Insurance Observatory. Carbone is the Guest Editor of this special report on IoT insurance applications for *Carrier Management*.

Ting is currently being offered to State Farm customers with a current, non-tenant homeowner policy in 44 states and the District of Columbia, entirely free of charge. This offer includes three years of monitoring services, a lifetime warranty on sensors and a $1,000 credit to cover needed repairs by a licensed electrician if a hazard is detected.

More than 460,000 homes insured by State Farm are now monitored by a Ting sensor. Since the program's inception in 2020, Ting sensors have detected over 5,700 hazards inside homes or their incoming utility grids. Customers have shared numerous "success stories," with many citing instances of imminent electrical fire loss prevention.

The successful scaling of the relationship with Ting represents a critical step toward what State Farm believes to be the future of insurance. These "predict and prevent" efforts are ripe for exploration, especially

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when it comes to covered water-related losses. Potential solutions are currently being tested to gain a better understanding of consumer sentiment and determine the viability of future offerings, home telematics integration and policyholder education.

Smart home capabilities and assets can empower insurers to deliver near-real-time alerts to their policyholders and engage them in proactive steps to mitigate or prevent significant claim events. Through loss mitigation smart home vendors, State Farm harbors the ambition of preventing 20 percent of losses related to fire, water and theft (which account for roughly two-thirds of all homeowner insurance losses).

Insurers have the unique opportunity to leverage an extensive reservoir of data generated by smart home devices. State Farm is working to apply this data to consumer education through the creation of the "home health score," which is intended to develop a deeper understanding of long-term risks while providing customers with proactive advice to help them improve their score.

With the right plan, this data could also be used to establish benefits like a reimagined claims management process. In the spring of 2023, State Farm obtained a patent for an IoT-driven claim process. This innovative approach may create efficiencies for policyholders and may also provide insights to the claim handler to support them in better serving the customer.

The effects of IoT on the fundamental insurance processes can enable the creation of additional economic value within the insurer's portfolio. This incremental value can then be shared with policyholders, as elucidated by the IoT Insurance Observatory's iconic value creation framework. (See graphic below.)

Additional opportunities include the positive externalities that benefit society, stemming from the wrapping of prevention services into traditional risk transfer contracts. Moreover, there is potential to develop new insurance products inspired by the insights derived from the extensive data generated by smart home sensors. In this scenario, the execution of a thoughtful smart home strategy may not be a nice-to-have goal. Rather, it may be essential to remain competitive going forward.

Execute a Platform; Play and Develop Capabilities Along the Journey

State Farm envisions a future where virtually everything within the sector is interconnected based on the belief that a platform-based approach to insurance is the best way to capitalize on the availability of data and create a seamless customer experience. In essence, State Farm is looking to reinvent the insurance industry once again, by leaning into a model that doesn't just price, protect and recover. State Farm is also proactively seeking ways to integrate experiences and predict and prevent loss.

State Farm harbors the ambition of preventing 20 percent of losses related to fire, water and theft (which account for approximately two-thirds of all homeowners insurance losses).

Insurers with the ambition to remain relevant must possess the capability to master connected platforms, specifically those related to IoT. This knowledge should be democratized throughout the organization via advanced digital assets like digital twins, serving as the foundation for delivering and overseeing an interconnected suite of services within a unified customer experience. Moreover, this knowledge will be fundamental to orchestrate an ecosystem of alliances and to be capable of defining a platform strategy, whether open or more restricted, that fits best with a carrier's corporate goals.

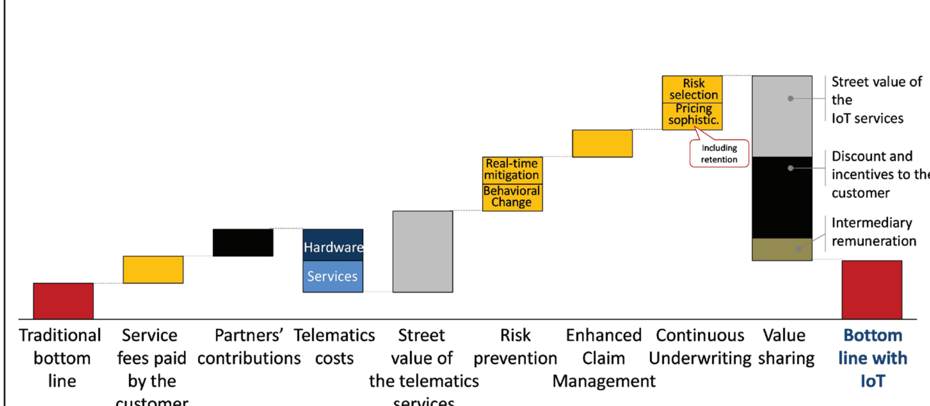
We need to be aware that there are barriers and blockers to achieve this ambition, including legacy technology stacks, risk aversion, tight regulations, slim margins. It is up to us as innovators to find ways past these challenges and develop the necessary capabilities for the insurer of the future. CM

Platform-Based Approaches

A "platform-level approach" generally refers to a technical, operational or business model strategy where intercompany partnership and integration provides disproportionate benefit (data, products, services, applications, etc.) to all parties in the ecosystem.

These approaches are the new standard in technology—from social media to the gig economy and many others, helping to accelerate the exponential effect of new technology on various business models.

Insurance IoT Value Creation Framework



Source: IoT Insurance Observatory

The Tipping Point for Insurance IoT:

How HSB and Its Partners Are Creating a Playbook for the Future

Executive Summary: Munich Re's HSB has been at the forefront of the industry's paradigm shift toward IoT.

Here, Gordon Hui, SVP of HSB's Applied Technology Solutions, and Matteo Carbone, founder of the IoT Insurance Observatory, describe the multiyear journey of HSB and its partners in using IoT to reduce non-cat property risks, enhance customer experience, improve sustainability and to innovate protection products—in line with four drivers of IoT adoption outlined by the IoT Insurance Observatory for the insurance sector.

Continuing innovation includes using sensor data to trigger coverage of existing risks and developing performance guarantees for sensors tracking electrical hazards, potential water damage and the condition of machinery.

By Gordon Hui and Matteo Carbone

Over the past several years, the property/casualty insurance industry's use of the Internet of Things (IoT) has significantly accelerated. Beyond auto telematics, P/C insurers—from major carriers to risk pools—have been implementing sensor programs to address property and equipment risks.

Overall, the philosophy of predicting and preventing loss has been well-established as the general trajectory of the industry, as highlighted in the Geneva Association-IoT Insurance Observatory report "From Risk Transfer to Risk Prevention."

HSB (part of Munich Re), however, has been at the forefront of the industry's

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Gordon Hui is Senior VP, Applied Technology Solutions, Product Management and Marketing, HSB.

paradigm shift toward IoT. The company develops and distributes specialty insurance products and services through independent agents and brokers, and through reinsurance arrangements with multiline insurance companies. One of those services is Sensor Solutions by HSB, which allows insurers to harness the potential of IoT through leading-edge technology, insurance expertise and programmatic support. Current clients include Nationwide, Liberty Mutual, New York School Insurance Reciprocal (NYSIR), Insurance Board and The Hanover Insurance Group Inc.

Over the past five years, HSB sensors, powered by its IoT development arm and wholly owned subsidiary, Meshify, have been implemented in more than 20 different business classes, including apartments and condos, schools, office buildings, and houses of worship, and have generated over 57 billion sensor readings. Currently, HSB has active sensor deployments in all 50 states, and the total number of sensor devices deployed has doubled every year for the past four years. (Related sidebar, "HSB: The Original InsurTech")

Together, HSB and the IoT Insurance Observatory have supported the growth of IoT adoption in the insurance industry, and we see the industry at an important inflection point. While great progress has been made, the tipping point of insurance IoT has not happened despite its proven impact and diverse value propositions. HSB's evolution in risk prevention toward IoT—and the insurance industry's continued transition—highlights where the industry has been and where it needs to go to fulfill its IoT potential.

Transformation of Insurance: Analog vs. Connected

At its core, insurance has always been about assessing, managing and transferring risks. Insurance professionals have traditionally relied upon collecting and analyzing historical data: past claims and exposure data, traditional data loggers, and more recently, thermography or aerial imagery. Historical data and underwriting questionnaires play vital roles in the risk pricing process, and detailed reports are essential for sound decision-making in claims management and loss control measures.

Risk mitigation (loss control) has always been in the DNA of the insurance industry, but it was (or still is, depending on the insurer) a human-driven activity. The prototypical insurance risk management expert is "The Clipboard Guy"—an individual who carries a clipboard, such as an inspector, risk engineering consultant or a coach. In addition, tools such as surveys, checklists and video-based training are core to the experience. This traditional approach provides, at times, personalized and contextual risk management to the policyholder.

However, this traditional approach poses scalability challenges due to a pronounced reliance on specialized personnel, especially in the wake of rising labor costs and impending retirements. Consequently, these services are typically offered only with commercial and high-net-worth homeowners policies. Equally important, the lack of continuous data significantly impedes the insurer's ability to proactively address potential risks or tailor coverages to reflect true underlying risk evolution.

The new connected insurance paradigm is based upon smart sensors continuously transmitting real-time data to a platform where they can be analyzed and transformed into meaningful insights about a location's environment, equipment or activity-related risks. This is the

HSB: The Original InsurTech

HSB (formerly Hartford Steam Boiler) was founded in 1866 to address one of the 19th century's most dangerous perils.

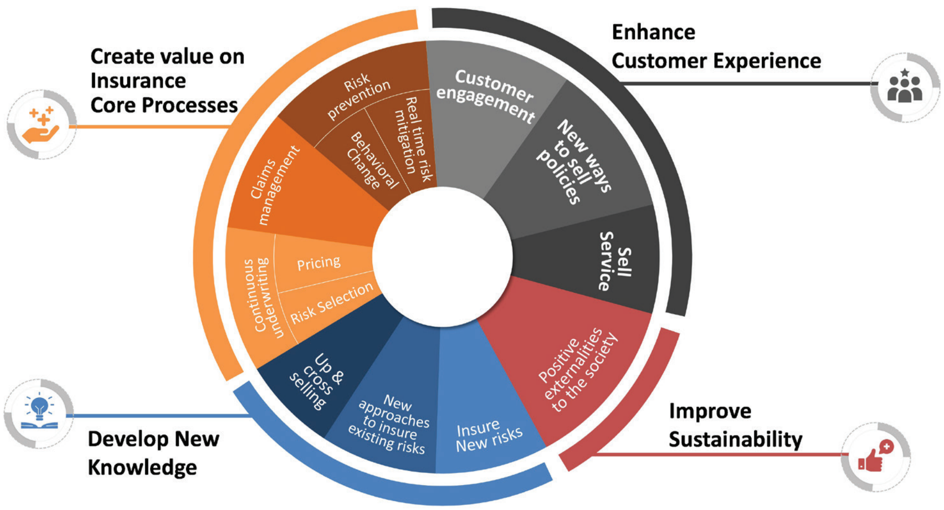
Steam, which powered the Industrial Revolution, enabled unprecedented levels of innovation and productivity, through factory machinery, locomotives and steamboats. But a key risk emerged: Steam boilers were exploding approximately one out of every four days, destroying businesses and causing fatalities across the country. In fact, the largest maritime disaster in U.S. history occurred in 1865 when the Sultana, a Mississippi River steamboat, took the lives of over 1,800 people, including Union soldiers who were returning home from the Civil War.

The Hartford Polytechnic Club, a group of local business and civic leaders, explored what could be done about steam boiler explosions. Based on their discussions, members of the club founded Hartford Steam Boiler. Their idea: the establishment of better standards by understanding the underlying risk and associated technology, periodic inspection services, and a financial guarantee (i.e., insurance) to encourage inspections could dramatically reduce what many people thought were "acts of God."

HSB's IoT efforts are a continued evolution of the original model that combines technology with engineering and insurance. HSB CEO Greg Barats leads IoT for Munich Re, HSB's parent company and one of the largest global reinsurers in the world. With a broad ecosystem, HSB builds its own hardware, software and data platform solutions; the company also partners with technology leaders and invests in relevant startups via its dedicated corporate Venture Capital fund.

(Source: https://www.munichre.com/hsb/en/about-hsb/hsb-group/history.html)

Map of the insurance IoT use cases



Sources: IoT Insurance Observatory

foundation to act: sometimes there is an IoT-enabled response, and sometimes human intervention is necessary.

The resulting impact on the insurance value chain is transformative. By integrating IoT sensors into insured assets, valuable sensing capabilities and algorithmic data are seamlessly incorporated into:

- Traditional risk assessment, which hitherto relied on proxies or inspector observations, and is now undergoing a momentous improvement in precision through IoT-derived insights.
- Claims adjudication, which was reliant upon manual processing and onsite evaluations, and can now be supported by objective evidence from sensor data.

Henceforth, IoT solutions, functioning as the conduit that links insurers with associated risks, will empower insurers to implement innovative approaches beyond the limitations of the conventional analog paradigm.

Toward a 'Connect and Protect' Future

One of the core frameworks developed by the IoT Insurance Observatory highlights the four main drivers for IoT adoption in the insurance sector.

1. Create value on core insurance processes.

Insurers across different business lines and geographies have demonstrated the impact of IoT for risk reduction, claims management and continuous underwriting. Notably, IoT solutions unlock an entirely new model of risk reduction of expected losses through:

- Real-time risk management solutions designed to address specific perils.
- Promotion of preventative risk management and behavior change by policyholders.

With this perspective in mind, HSB is focused on helping insurers and their policyholders migrate to a "Connect and Protect" future, where ubiquitous sensor technology and insights from insured locations create an unprecedented ability to proactively manage potential risks and mitigate peril situations from escalating in damage. By building customized programs that attack key insurance perils—notably non-weather water, fire and equipment failure—HSB helps IoT insurance clients reduce losses within their risk retention,

A key differentiator of IoT is its unique ability to empower the policyholder to be an active player in their own risk reduction.

Matteo Carbone is the Founder and Director of the IoT Insurance Observatory.

Carbone is the Guest Editor of this special report on IoT insurance applications for *Carrier Management*.

By alerting the policyholder about potential or existing perils, HSB IoT solutions enable the user to take action to potentially prevent and ultimately protect their property and equipment. Advancing the state-of-the-art, HSB combines its 167 years of risk management experience and Meshify's deep hardware and software capabilities to create IoT solutions designed specifically for the insurance industry. The recent launch of the Meshify Defender water shutoff continues HSB's focus on enabling action—not just alerting—to further reduce risk.

Overall, the results of HSB and its forward-thinking insurance clients highlight the real-time risk management and behavior change that can occur through IoT. When using Meshify technologies, clients who scale their Sensor Solutions by HSB programs have achieved a return-on-investment (ROI) of 639 percent over the past five years.

Some HSB insurance company clients indicate that incorporating IoT programs into their offerings has improved policyholder acquisition and retention, even as premiums have meaningfully increased. In addition to providing more value, IoT highlights the insurance entity's focus on innovation and differentiation.

2. Improve sustainability.

An additional positive impact of these approaches is sustainability. Through continuous remote monitoring of environments and equipment, IoT solutions enable action to reduce wasted

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resources and optimize costs. Expanding upon this value proposition, HSB develops IoT and technology-related coverages that guarantee a solution's ability to reduce energy consumption or provide solar output, while addressing traditional insurance risks.

PACE AI, an HSB insurance partner, provides an innovative machine learning and smart edge solution that can reduce energy usage for a wide range of heating, cooling and refrigeration units, and is eligible for utility incentives across North America. One application is packaged rooftop HVAC units, which serve the air conditioning needs for over 50 percent of the U.S. commercial building market. PACE AI's AI/ML technology optimizes the existing HVACR equipment's operation in response to heating or cooling commands and provides real-time energy and equipment data for ESG reporting and smart grid features (e.g., demand response and microgrid control). Combined with HSB's Energy Efficiency Insurance product, PACE AI's solution provides guaranteed energy savings to commercial and industrial clients, reducing their energy costs and assisting in their decarbonization strategies.

3. Enhance customer experience.

For policyholders, insurance is very important but often remains inconspicuous in their daily lives. By facilitating a new prevention-focused connection between the insurer and insured assets, the IoT paradigm enables an enhanced relationship with policyholders by fostering more frequent digital engagement and meaningfully differentiated touchpoints, even when there is no claim.

Whisker Labs' Ting, an HSB-distributed IoT solution, highlights the ability to wrap services around IoT. With a simple plug-in sensor, Ting employs machine learning to detect and mitigate electrical fire hazards, such as electrical arcing concealed behind walls or poor utility power entering the home. If an anomaly is detected, Ting notifies the homeowner and a Ting Fire Safety engineer engages to verify the potential electrical fire concern. The service ensures each hazard is mitigated, which might require a licensed electrician, in which case Whisker Labs commits to contributing $1,000 toward labor. According to published data, Ting prevents about 80 percent of electrically generated fires, and according to Whisker Labs, also provides an average of eight touchpoints a month with policyholders.

4. Develop new business opportunities.

HSB and its parent Munich Re's deep experience over the years in connecting assets and using IoT solutions for risk mitigation has allowed the companies to unlock new growth opportunities and enable new business models.

One of HSB's recent initiatives has been to provide underwriting capacity to FloodFlash, a managing general agent and Munich Re venture capital investment. FloodFlash's IoT solution creates an entirely new approach for insuring an age-old risk. Unlike traditional flood insurance, the company offers parametric coverage for commercial risks. An ultrasonic flood sensor that measures water depth is installed at the insured location, and the claims process is initiated automatically when an agreed-upon depth has been reached. The payout chosen by the policyholder at purchase is settled quickly and without the costly and often frustrating loss adjustment process.

HSB has gone beyond innovation on current risks by addressing new risks, including the AI performance of IoT solutions. One of the most prominent examples is its collaboration with WINT Water Intelligence. Through an AI-based water management solution, WINT continuously monitors locations for water use and leaks, and can shut off water at the source to mitigate damage. For construction job sites, an HSB-backed warranty on WINT's performance is offered for the service; in the event that a WINT-monitored pipe has a preventable water damage event, policyholders, such as general contractors and developers, are compensated up to $250,000.

The recent launch of the Meshify Defender water shutoff continues HSB's focus on enabling action—not just alerting—to further reduce risk.

HSB also backs warranties for risk partners Scheider Electric, a global leader in the digital transformation of energy management and automation, and Augury, a company that provides manufacturers and other industrial sectors with insights into the health of machines, processes and operations.

As highlighted earlier, certain successful risk mitigation initiatives have been implemented by primary U.S. carriers. In particular, HSB has cultivated a business that is truly at the intersection of technology, data and insurance, leveraging the capabilities honed within its own business to aid other insurance carriers in their prevention journeys. And with over a decade of experience, HSB has become a standard bearer in insurance IoT and constantly staying on the innovation frontier, with Meshify's recent partnership with Amazon on the Big Tech company's Sidewalk network as just the latest example. (Editor's Note: Amazon Sidewalk is a shared network that helps connected devices work better.)

Creating the IoT Tipping Point

HSB's IoT experience and successes are an example of the path forward. The specialty reinsurer's work with the industry on IoT and seven editions of IoT Insurance Observatory research highlight several recommended best practices:

- **Commit to IoT for the long term.**
  IoT is a strategic choice. Toe-dipping behaviors, such as half-hearted pilots and sensor giveaways, do not lead to long-term progress. Focus on achieving early wins to build organizational momentum, recognizing that there will be highlight moments and learning opportunities along the way.
- **Consider the full spectrum of potential IoT applications.**
  As HSB's example highlights, leveraging a series of use cases creates mutual reinforcement and boosts IoT's impact on your business. Focusing simply on loss control can lead to underinvestment or weak business cases.
- **Create near-term and long-term IoT value to all the stakeholders involved.**
  Because avoiding losses that may never occur is somewhat intangible, creating near-term, tangible value, such as cost savings or compliance support, helps create additional motivation for policyholders to enroll and engage in IoT. For internal stakeholders and intermediaries, communicating—and even overcommunicating—the IoT vision and value propositions are essential to long-term success.
- **Enable personalization at scale.**
  When correctly applied, IoT amplifies in-person touchpoints while providing the unique value of digital engagement. The resulting personalization extends your customer experience and boosts retention.
- **Explore different go-to-market strategies.**
  More so than ever, IoT is enabling entirely new approaches to drive growth, improve loss ratios and expand risk appetite. Forward-thinking insurers are leveraging IoT to enable embedded insurance and, for specific risks, even requiring IoT as a condition of coverage.
  IoT-integrated insurance policies, where the underlying IoT is inseparable from the risk transfer mechanism, is a clear next step for the industry at large. CM

Realize Your IoT Potential

The time is now for investing and implementing insurance IoT. Between 2017 and 2021, P/C insurers experienced dramatic increases in non-cat loss severity for water damage (34 percent) and fire and lightning (52 percent) in commercial property environments, with business owners and homeowners books experiencing similar challenges. (Source: HSB analysis of Verisk ISO DataCube data) In addition, extreme weather patterns, such as arctic blasts and Winter Storm Elliott, have become more frequent than ever.

In response, more insurers realize they need to do something, and that something is meaningfully applying IoT to their business. IoT can help improve overall loss performance by offsetting cat-related losses with proactive management of losses caused by non-cat perils, including non-weather water.

Sensor programs attract new clients and retain customers profitably in a way that few other technologies can. Ultimately, IoT creates a strategic differentiator for the insurance product and brand.

Analogous to other technological shifts involving data, lagging behind creates long-term implications for profitability and competitive advantage.

Carrier Partner's Perspective

"The Hanover strongly believes in IoT's transformative impact on the future of risk management and insurance. We see the value this technology brings to loss control and mitigation across a variety of business classes, and we are pleased with the results of our IoT collaboration with partners like HSB."

Christina Villena
Vice-President, Risk Solutions
The Hanover Insurance Group Inc.

Nationwide Insurance:

Using a Decade of Learnings to Create Next-Generation Telematics Solutions

Executive Summary: Only recently has the U.S. auto insurance sector acknowledged the pivotal status of telematics as a fundamental capability within the personal auto line. Here, Nationwide AVP Kelly Hernandez and CM Guest Editor Matteo Carbone review Nationwide's trailblazing efforts to offer UBI programs—and expand them beyond the discount-only pricing programs that once defined the space. Educating agents and impacting distracted driving behaviors along the way, the carrier is building off early learnings and successes to bring to market the next wave of telematics capabilities.

By Kelly Hernandez and Matteo Carbone

Telematics insurance has traversed more than two decades, cycling through phases of curiosity, dedication and subsequent disappointment. Only recently has the U.S. auto insurance sector acknowledged its pivotal status as a fundamental capability within the personal auto line.

Telematics pioneers like Nationwide have successfully moved beyond the discount-only pricing programs that once defined the space to positively impact policyholder driving behaviors and start to reshape how we think about auto insurance.

Beyond Upfront Discounts

For many years, insurers predominantly relied on approaches centered around onboard diagnostic (OBD) devices that were provided to policyholders solely to evaluate their driving behaviors over a limited period. An incentive in the form of upfront discounts was extended to encourage participation, and upon policy renewal, proficient drivers were granted supplementary discounts.

This IoT approach, involving the collection of insights for a restricted duration, represents a rudimentary implementation of the IoT framework. This is largely a result of the sector's limited maturity in harnessing telematics data and the elevated cost of the devices involved. The exclusively "discount-only" approach restricted insurers' ability to improve price accuracy. The primary value for insurers predominantly emanated from self-selection: within each pricing tier, a greater proportion of comparatively good drivers exhibited an inclination to enroll.

The landscape has undergone substantial transformation in the latter portion of the previous decade and in recent years. Insurers have maintained their perception of telematics as a product, referred to as usage-based insurance (UBI) auto policies, primarily tailored for new (self-selected) policyholders. Carriers have developed more robust capabilities in effectively managing telematics data, accumulating actuarial evidence to think differently about how to rate auto insurance more accurately. This transition enables insurers to think beyond providing a discount to the most favorable risk profiles.

Telematics pricing will see significant advancements in the future as carriers look to put more weight on rating customers based on how they drive and less on non-driving variables.

Insurers have gradually embraced a mobile-centric approach, complemented in some cases by a small in-car beacon partnered with a smartphone app. Driving behaviors are acquired through phone sensors, and the data is subsequently transmitted to the insurer. The number of UBI policies has grown more than threefold from 2016 based on the IoT Insurance Observatory research—reaching 17 percent penetration per J.D. Power's recent survey—and this considerable expansion has been propelled by mobile-based approaches. Nowadays, the OBD dongles are mainly used for pay-per-use policies where the precise tracking of all the miles driven is a fundamental part.

The adoption of the mobile-centric approach has yielded cost reductions in data capture costs and has facilitated the widespread implementation of continuous engagement strategies by numerous carriers. This signifies a more mature way to apply IoT to the insurance business. The gradual accumulation of experience has enabled the industry to pivot its attention from the product (UBI policy) toward integrating the IoT paradigm across all fundamental insurance processes.

Let's delve tangibly into this paradigm.

- The *sensor* component, either embedded in the phone, installed within the vehicle or even inherently built-in, captures car movements throughout the entire policyholder-insurer relationship.

Kelly Hernandez is Associate Vice President for Personal Lines Telematics at Nationwide and a Fellow of the Casualty Actuarial Society. She has been in the industry for over 20 years in roles spanning loss reserving, pricing and product development. She is a leader of telematics innovation specifically focused on Nationwide's telematics programs SmartRide and SmartMiles.

• Leveraging the *connectivity* facilitated by the mobile network, sensor data is seamlessly transmitted to the cloud.
• Through *analytics*, raw data, encompassing sequences of GPS coordinates, acceleration forces and more, is translated into curated driving behaviors, consequently quantifying the customer's risk profile. Moreover, these analytics can identify events like potential accidents based on shock measurements or vehicle theft through anomalous driving patterns.
• Lastly, in the *application* phase insurers can leverage these insights to make smart decisions that would have been unattainable in the absence of this continuous stream of information. Never have insurance carriers had access to customers' actual real-time driving behaviors. This will enable them to reimagine how to more effectively price auto insurance.

This type of a continuous engagement approach also offers the opportunity to evaluate how to use this data to improve the customer experience across the entire insurance value chain. Nationwide already has expanded the approach beyond just providing a discount for auto insurance. Furthermore, Nationwide is evaluating what the future would look like if telematics was integrated across acquisition, underwriting, billing, pricing and claims experiences.

Beyond Auto

The usage of driving data has even been pushed beyond auto. Nationwide has extended benefits from auto telematics participation to homeowners insurance. The company is currently rolling out a telematics property discount countrywide. Customers who have enrolled in one of Nationwide's auto telematics programs and have earned a safe driving discount will be eligible to receive a discount automatically on their homeowners insurance renewal.

In the U.S. market, a recent development involves extending telematics apps to the entire policyholder portfolio, not solely limited to those who have enrolled in UBI policies. In many instances, insurance companies have integrated this capability into their flagship app, opening new telematics-based capabilities for all their customers. This development aligns with the foresight outlined in co-author Carbone's 2021 article "The Past, Present, and Future of Telematics and UBI."

SmartRide and SmartMiles

Currently, Nationwide presents two distinct telematics value propositions. With this, Nationwide allows each policyholder to enroll in multiple programs on one policy that may help them to customize the policy for their specific needs.

The first is SmartRide, which follows the conventional UBI model, providing an initial upfront discount and utilizing telematics data to determine pricing at policy renewal, or in some instances, adjusting their premiums midterm. At Nationwide, in most states, the participation discount is 15 percent, and customers see an average savings of 24 percent in as little as 80 days.

SmartRide was initially introduced in 2012 and has undergone continuous refinement. Today, driving data is captured through mobile apps, OBDII and connected car technologies. Mobile apps are the most popular approach used, but connected car enabled data collection is growing. Via connected car-enabled partnerships, Nationwide offers customers their earned discount instantly at the time of quote, removing the driving evaluation period.

The second program, launched in 2019, is SmartMiles, an OBDII-based UBI pay-per-mile structure. The introduction of this supplementary option has played a substantial role in bolstering the penetration of telematics within the company's personal auto business. This program isn't only focused on mileage as it also includes a safe driving component that impacts their premium.

Through SmartMiles, Nationwide has seen the true power of pricing based on usage as it attracts customers who drive less. This is a new concept for many drivers as it adjusts the monthly premium based on mileage driven. Customers willing to try this new type of program save an average of 34 percent. Although the program's initial emphasis was on drivers with low mileage, Nationwide is capitalizing on the early insights and achievements of this initiative to construct the next wave of solutions that could extend advantages to a broader audience.

Matteo Carbone is the Founder and Director of the IoT Insurance Observatory.

Carbone is the Guest Editor of this special report on IoT insurance applications for *Carrier Management*.

Using co-author Carbone's 4Ps framework for evaluating InsurTech initiatives and focusing on innovation efforts within the insurance sector, it is clear the impact of telematics on Nationwide's business and the rationale for the company's commitment to this technology. These encompass:
• **Productivity**, indicating improved top line.
• **Proximity**, denoting frequency of interaction with the customer.
• **Profitability**, in terms of technical results.
• **Persistency**, highlighting increased retention.

Productivity

Consumer acceptance of telematics technology is no longer a concern in the U.S. personal auto market. However, the growth of UBI programs will not happen overnight, often influenced by how infrequently consumers think about insurance or look to change their current policies.

Nationwide has observed that customers are increasingly willing to share their data

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through telematics, with a substantial 70-80 percent of direct customers choosing telematics at the point of sale.

However, for companies that sell auto insurance through agencies, one of the hurdles of getting customers to adopt telematics is first getting agents to understand the value proposition of the programs and then confidently offer it. Nationwide revealed that 67 percent of consumers have not discussed telematics with their insurance agents, and 40 percent of insurance agents do not feel knowledgeable enough to speak on telematics to counsel clients.

In recent years, Nationwide has made concerted efforts to ensure its agency partners are well-prepared and equipped to discuss telematics with their clients. The company has invested in educating agents and bolstering their confidence in promoting telematics. More importantly, Nationwide has listened to its agents and adjusted the programs based on their feedback. Early program designs applied the discount at the first renewal, which could be up to a year before the customer received their earned discount. Agent feedback told us we needed to accelerate it, and now premiums are adjusted mid-term so that a customer can get their earned discount in as little as 80 days.

As a result of these changes, over the past 18-24 months, Nationwide has witnessed a remarkable 60 percent increase in telematics program adoption among independent agents.

Proximity

The ongoing connection and presence of a telematics device in the policyholder's pocket provides a unique opportunity for engagement. Carriers previously had limited opportunities to connect with their customers. As these capabilities advance, the carrier must maintain a steadfast focus on its customers, guiding them along while gaining feedback as they create new experiences.

During distracted driving awareness month, Nationwide tested a push notification campaign through the SmartRide mobile app with educational messages about distracted driving. As a result, app interactions increased as much as 9 percentage points on days push notifications were sent and engagement continued several days after. This test showed that customers appreciate the new insights and coaching and respond positively to this form of communication.

This type of testing has been a key element in improving driving behaviors and customer experiences. Beyond engagement, success can be measured in many ways including app store ratings and comments, in-app feedback, customer calls and surveys.

Profitability

Nationwide has proven insights from its telematics programs that are showing a positive change in driving behaviors on the road. The prevalence of distracted driving is a pressing concern. In the past year, based on a 2023 Nationwide survey, a concerning 35 percent of vehicle passengers reported witnessing their driver texting while behind the wheel. A notable 34 percent of Generation Z individuals admitted to video chatting, and 24 percent acknowledged using or checking social media while driving.

Thanks to the transition to the mobile-based approach in 2016, Nationwide was able to observe how often people are distracted by their phones while behind the wheel. The evidence was highly alarming and served as a catalyst for a focused effort to drive behavioral change. In 2020, Nationwide initiated the practice of sharing this data with its customers, primarily within the SmartRide Mobile program. The experience provides customized feedback on how often a driver is distracted by their phone and where the distraction occurred. A policyholder can review the distractions after the car is parked, and the prevailing trend indicates that most individuals are genuinely startled by how often they divert their attention from the road to check their phones.

This new awareness is making drivers want to change their behaviors. Encouragingly, this initiative has yielded tangible results. After being in the market less than a year, these drivers had a 10 percent reduction in everyday hand-held distractions. It also proves that a carrier can affect driving behaviors through telematics programs. Additionally, the usage of driving data has even been used to inform legislatures in passing distracted driving bills that help make our roads safer.

Nationwide is confident that reducing distractions plays a pivotal role in preventing accidents, protecting customers and communities, and ultimately, saving lives. This is the reason why Nationwide is continuing to evaluate additional ways to enhance this experience to further the impact. While many companies are starting to integrate this into pricing, rating for distracted driving, another opportunity is to reward those that remain focused and make changes to become safer.

Either way, the good news is that this is completely in the customers' control and can be changed for the better.

Persistency

Through the programs Nationwide has in market today, a positive impact to customer retention and satisfaction has been measured. For those that have participated in a telematics program, Nationwide consistently sees statistically significant improvement in overall satisfaction and the likelihood to recommend Nationwide. This is seen in customer retention, as well, which is typically two to three points higher than those that do not try telematics.

All these results come from a 10-year journey using the telematics data. Nationwide is firmly convinced that telematics is a permanent fixture in the insurance landscape and will persist in its evolution. Drawing upon the wisdom garnered over the past decade, the company is actively forging the next generation of usage-based insurance capabilities within the organization. CM

(Related article: The Transformative Potential of Telematics Innovation, next page)

The Transformative Potential of Telematics Innovation: Personal Auto

When looking at the impact of telematics capabilities on insurance activities, we see the emergence of the transformative potential of this InsurTech innovation. (Game-changing impacts are highlighted in red on the accompanying illustration below.)

There is a relevant number of activities in the personal auto insurance value chain that can be improved using telematics.

- **Product management**. The design and maintenance of a telematics product that provides more frequent interaction with policyholders is completely new compared to the traditional insurance model, which uses static rating features. The days of the "one-policy-fits-all" approach to auto insurance are over.

As consumer needs evolve, they will seek carriers capable of tailoring auto insurance coverage to align with the unique needs of all the drivers in their household.

- **Marketing.** As these programs become more innovative, shifting how we market the value proposition to customers will be vital. Marketing activities need to focus on customer engagement through improved communication and transparency.
- **Policy acquisition and servicing.** Telematics data is changing the entire customer journey from issuing a quote to the policy contract, how the policy is serviced, including billing, and finally, the impact on renewals.
- **Underwriting and risk management**. Risk analysis, inspection, monitoring and loss control—typically core and addressed at the policy level in middle and large commercial risks—can be performed at scale on the personal auto book, applying algorithms to the telematics data. Loss control already has been a core in Nationwide's telematics journey focused on changing driver behaviors and is an area of further investments. (Related article, p. 48)
- **Sales and distribution.** As mentioned in the accompanying article describing Nationwide's approach, telematics offers new ways to acquire customers, such as using the driving score at point of sale. Pre-existing data allows companies to offer the most accurate rating/discount upfront, replacing the need to capture driving data during the introductory period. The insight collected about policyholders and their risks has the potential to unlock further opportunities for upselling and cross-selling.
- **Claims management.** Claims activity is ripe for a deep redesign fueled by using telematics-based insights to detect crashes and proactively reach out to policyholders, assessing the crash dynamic and the overall anti-fraud process.
- **Support functions.** From an IT, organizational and data management perspective, the amount of data received with telematics is new for most insurance companies, and the skills required will be broader than the traditional insurance skillset. Investing in the right infrastructure, data foundation and people is vital because nothing happens in telematics without data.

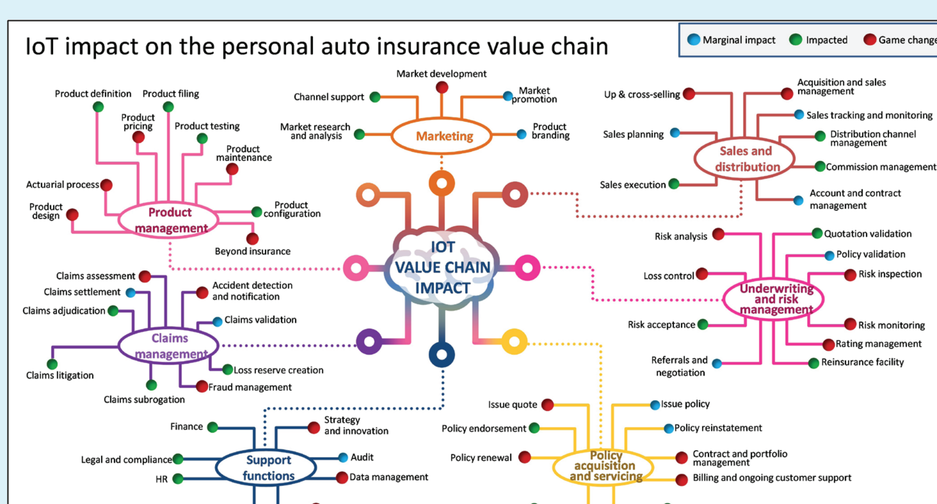
The better a carrier is at managing this dataset throughout the customer value chain, the greater their chances of success—as this fuels the pricing models that determine if a discount is warranted, powers the customer experiences, impacts future strategies and innovations, and ultimately unlocks the larger benefits.

Other activities—highlighted in blue or green in the accompanying illustration—have an impact. However, the use of telematics data does not transform the activity; it will be mainly an extension of the current approach.

While not identified as a game-changer, agents are the trusted advisor to many consumers. As such, they are key stakeholders in the speed of adoption and long-term success of some of these new capabilities.

Nationwide aspires to modernize insurance protection through these telematics capabilities, delivering advanced product offerings accompanied by innovative experiences that will define the insurance landscape for decades to come. CM

Source: IoT Insurance Observatory



Real-Time Data and Mitigation: How Tokio Marine Is Changing Risky Behaviors

Executive Summary: Risk prevention has been a key pillar of Tokio Marine Group's global strategy for years, with many of its local insurance entities around the world marrying real-time risk mitigation solutions and behavioral change programs to their insurance products. Just one example is TMNF's Drive Agent service, providing in-vehicle alerts to over one million drivers who are distracted, sleepy or in danger of crashing and resulting in a 13 percent drop in claims frequency.

Here, TMNA EVP Robert Pick and CM Guest Editor Matteo Carbone also review the claims management benefits of Drive Agent, and other IoT-based services developed by Tokio Marine operations like Philadelphia Insurance and PURE in the U.S., targeting risk prevention for commercial and personal property policyholders in addition to drivers of individual cars and fleets.

By Robert Pick and Matteo Carbone

In our ever more interconnected world—from vehicles to manufacturers to health care to the power grid—solutions to avoid risk are becoming more common.

Our cars have evolved into veritable iPads on wheels, maintaining constant connectivity with their manufacturers. In the realm of business, access and building management have transitioned to sensor-driven automation systems.

Solutions are structured around sensors gathering data and wireless connectivity transmitting this information to the cloud. Here, automated systems process and add enriched data and intelligence, driving real-time informed decision-making and subsequently triggering actions. These actions can be executed by physical devices or, alternately, by humans alerted by the systems.

We may not even realize how much the Internet of Things (IoT) paradigm has changed our lives in the past few decades. The insurance industry also has significantly invested in this paradigm. Let's think about using connected data for pricing in personal auto (the well-known UBI insurance) or creating parametric flood insurance coverage based on a device measuring the water level in a location. However, one of the most relevant opportunities for our sector has been using IoT-based solutions to prevent and mitigate risks.

In the past two years, from publication of the Geneva Association's paper "From Risk Transfer to Risk Prevention: How the Internet of Things is reshaping business models in insurance" and *Carrier Management's* special "Insurance Is Getting Connected," more and more insurance carriers have invested in this opportunity, experimenting with solutions and subsequently scaling select initiatives, yielding concrete results in keeping bad things from happening to their policyholders. In doing so, they have generated positive externalities benefiting society at large.

Insurers have wrapped prevention services around their traditional risk transfer solutions. Based on the research of the IoT Insurance Observatory, the initiatives have been focused on reducing the consequences of three different situations:

- **An incident (insured event) already**

happened, such as detecting water leakage or an injured employee. Here, the insurer's goal is to act as quickly as possible to mitigate the event's consequences.

- **A risky situation**, such as a forklift operator speeding in a warehouse or anomalies in an electrical control panel. The insurer's goal is to act in real time to avoid the risky situation from escalating into an accident and generating a loss. A complementary insurance approach is to introduce programs that promote less risky behaviors and practices, as a way to reduce the frequency of occurrence of these risky situations.
- **Missed safety tasks**—such as scheduled inspection or maintenance, bald tires—and **out-of-order (or absent) risk mitigation systems**—such as low pressure in the sprinkler system or a smoke alarm out of battery power. The insurer's goal is to act proactively to restore the prevention capabilities. Even in this scenario, a complementary insurance approach will introduce programs that promote compliance with safety tasks and the presence or correct use of risk mitigation tools.

Risk prevention has been a key pillar of Tokio Marine's strategy. The group globally views risk management as a key part of the insurance ecosystem, benefitting policyholders, the carrier and even society. Many of its local entities around the globe have included real-time risk mitigation solutions and behavioral change programs in their insurance product.

In the U.S., Philadelphia Insurance Companies has led the way in telematics for Tokio Marine Group and the industry for commercial lines with PHLYTRAC (auto telematics) and PHLYSENSE (property telematics) over the last 10-plus years. In concert with broader groupwide InsurTech and digital initiatives, Philadelphia Insurance has included risk mitigation services and benefits in offerings for different personal and commercial lines, from auto to property to cyber.

In 2021, Tokio Marine launched Tokio Marine dR, a new data company, centralizing the group's data and advanced analytics capabilities and managing a specialized risk data platform. This company is developing data-driven insurance products, creating IoT-based risk prevention services both for corporate and retail clients.

Real-Time Risk Mitigation

A real-time mitigation approach is the perfect archetype of IoT-based service: sensors monitor the insured asset, and data is constantly sent to the insurer. In the cloud, algorithms autonomously infer the emergence of situations necessitating intervention, proactively facilitating smart actions to address and resolve such circumstances.

The actions can be executed automatically by an IoT device, such as an automatic shutoff valve on a water line, or by human intervention, such as a frontline employee alerted through a text message sent by the system.

Over the past few years, Tokio Marine has experimented with a broad set of use cases and technologies for real-time risk mitigation to its policyholders. Tokio Marine's U.S. high-net-worth personal lines subsidiary, PURE Insurance, has ongoing activities in place to recommend, and in some cases require, IoT-enabled water shut-off valves and, less frequently, water sensors. The insurer is currently running pilots, offered at no cost to their insured homeowners, a prevention solution addressing risky situations that can escalate to fire—the Ting solution (illustrated in the article "Creating the Tipping Point for Insurance IoT" in this *Carrier Management* special report)—and a water escape mitigation solution, the Ondo service ("LeakBot"), which is able to provide early detection of leaks. Both of these are centrally monitored and generate alerts to the user and the monitoring organization, and ultimately rely on human intervention to solve the situation.

The same human-based, real-time risk mitigation approach is the foundation of the PHLYSENSE program. The service is based on small battery-powered devices that constantly monitor the temperature and detect the presence of water on the floor of commercial properties. The data, captured through the cellular network, is sent to the cloud, where algorithms detect anomalies (such as low or high temperature, or water detection), and a 24/7 support center monitors the anomalies detected, dispatching alerts (emails, SMS and phone calls). These alerts allow policyholders' frontline employees to intervene, limiting the damage that can occur. Since 2020, Philadelphia Insurance has offered this solution at no cost to policyholders with commercial property coverages. Growth has been substantial, especially in the SMB space, where building management systems are less common.

In Japan, Tokio Marine & Nichido Fire Insurance Co. Ltd. (TMNF) has been offering automatic real-time risk mitigation for personal auto. Since 2017, the company has sold the Drive Agent service—based on a constantly connected camera with AI at the edge—to its current auto policyholders. For a monthly fee of $4 to $6, this multi-award-winning service, provides:

- A record of crash events, protecting drivers against third-party actions.
- The dispatch of proactive assistance,

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Matteo Carbone is the Founder and Director of the IoT Insurance Observatory.

Carbone is the Guest Editor of this special report on IoT insurance applications for *Carrier Management*. A frequent contributor, Carbone was also a guest editor for CM's 2018 featured magazine section, "Startups Face Off Against Established Players" (November/December 2018 edition; co-editor Adrian Jones) and CM's 2021 featured magazine section, "Insurance is Getting Connected")

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such as an ambulance, for severe impacts, which can mitigate the consequences of an incident that has happened.

- Alerts to mitigate risky situations in real time.

Using a speaker and a display near the rear mirror, these automatic alerts warn the driver of risky situations, such as distraction or signs of falling asleep, lane departure, risk of forward collision, and proximity to risky areas. This connected portfolio already has reached one million users, allowing TMNF to measure robust actuarial evidence about the risk mitigation results: a 13 percent reduction in the claim frequency emerges comparing the claims of this group of policyholders before and after using the service.

The recorded videos and telematics data are also used for claim management. AI is used to reconstruct the accident situation, providing valuable assistance to claim handlers. This methodology has enabled the carrier to curtail the time required for accident resolution by 15 percent, enhancing the client experience while concurrently affecting cost savings for the company.

Behavior Change

Human behaviors—exhibited by both personal lines policyholders and frontline employees in commercial lines—influence the risk exposure of many P/C perils. Consequently, expected losses can be modified by human behaviors during the life cycle of a risk. This has motivated numerous insurers to integrate behavioral modification initiatives within their policies, with IoT data as the cornerstone of these programs.

These approaches have been discussed at many of the IoT Insurance Observatory's peer discussions, including one in Las Vegas on Oct. 31, by the over 100 carriers participating in this think tank's seventh edition. Key ideas shared revolve around:

- **Creating awareness** about the level of risk and critical areas detected. In personal auto, numerous examples of telematics apps provide a detailed analysis of driving behavior to policyholders. Similarly, in commercial auto, structured reports are systematically shared with fleet managers.
- **Suggesting actionable changes** to reduce the risks. The same personal auto telematics apps provide, acting on the rational angle, suggestions to improve the critical areas and gamification mechanisms to engage policyholders in a journey to change. In commercial lines, insights inferred from the IoT data are provided to loss control teams to support their risk advisory services to enterprise clients and more accurately suggest changes to reduce the incidents. Some workers compensation approaches deliver suggestions directly to frontline employees between shifts.
- **Rewarding compliance** with the suggested actions. Based on the IoT Insurance Observatory research, awareness and suggested behaviors are necessary but not sufficient to keep engagement and change habits. Rewards appear as a fundamental aspect in maximizing the effectiveness of behavioral change programs. For example, recent Federal Highway Administration research on driver distraction mitigation demonstrated the superior results obtained with weekly rewards. In commercial lines, the incentives should be designed at both enterprise and employee levels. There are examples in cyber insurance where the policy has a dynamic deductible: It is reduced when the level of compliance with the prevention tasks is above a defined threshold.

Tokio Marine's subsidiary E.Design Insurance Co. Ltd. (EDSP) introduced an app and tag telematics auto insurance product focused on improving driving behaviors consistent with the carrier's goal to create accident-free cities in Japan. The product uses the constant flow of driving data to provide trip reports to the policyholder, create awareness about the risky situations, and reward safe driving habits with perks such as coffee, ice cream, etc., at Starbucks and other affiliated stores.

EDSP picks up frequently occurring accident patterns and factors from its accident data and provides users with "driving themes." Users are challenged on these themes and can get points by demonstrating an improvement. "Driving themes" include behaviors such as:

- Engaging in safety checks even on roads where the driver's own car has priority.

Source: IoT Insurance Observatory

• Considerate driving (e.g., driving at slow speed in residential areas, around schools, etc.)

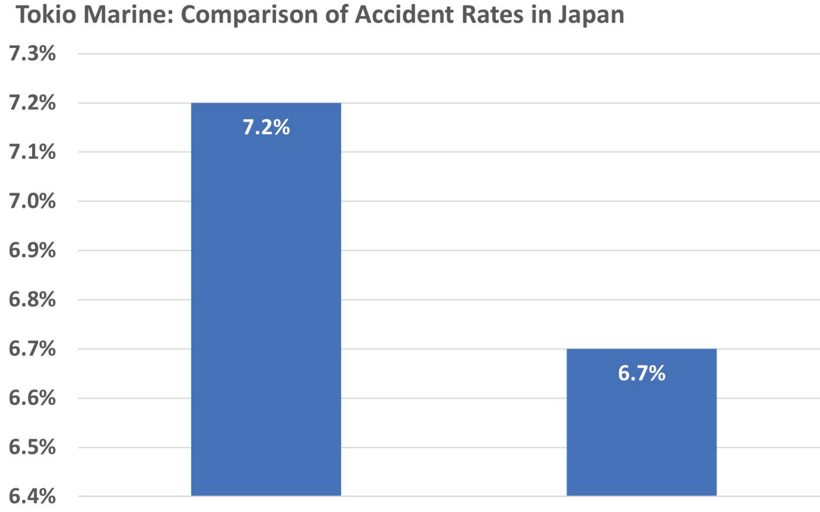
• Being alert to changing conditions (e.g., whether the driver did not miss signs of fatigue, such as increased yawning and blinking).

Data analysis by EDSP showed that the accident rate for drivers who engaged in the “driving themes” was lower than that for drivers who did not (6.7 percent for engaged vs. 7.2 percent not engaged).

Accumulated points in the range of 100 to 500 can be redeemed for rewards (e.g., 100 points for coffee, 350 points for Haagen-Dazs ice cream, 500 points for digital gift cards, etc.)

In the U.S., Philadelphia Insurance’s PHLYTRAC commercial auto program represents the recognized telematics best practice for safety. The carrier has offered, at no cost, a layer of protection to the fleets in its commercial auto portfolio since 2016. The fleets receive an OBD dongle for each vehicle. The data is used to provide periodic reports about driving behaviors, allowing policyholders’ operational managers to follow up with the drivers and implement changes to reduce the risks. More than 20 percent of Philadelphia’s insured commercial auto vehicles have adopted the solution, representing more than 1.8 billion miles protected. The company has measured double-digit reductions in claim frequency among these fleets.

Tokio Marine: Comparison of Accident Rates in Japan



The Future of Insurance

The insurer of the future will manage risk prevention, creating new revenue streams while improving the profile of risks written and the happiness of the insureds. This risk avoidance effort represents a societal benefit, as well.

To concretize this potential, carriers must have the vision to embrace new (and often changing) technology and develop peoples’ skills and operative processes to create and manage at-scale prevention services. Further, carriers must govern and integrate this additional IoT data into their data architecture.

Carriers must also work to both understand and overcome some longstanding barriers to adoption among personal and small business users. These barriers—namely concerns over data privacy and use—as well as difficulty in setup and installation, cost, and false alerts, remain challenges for adoption.

Data privacy and use are best addressed with clear, plain-language explanations as to what is collected, how it will be used and by whom. Setup and installation is naturally becoming easier and simpler as tech and devices improve. Similarly, as tech improves, costs come down, making the business case more sustainable for all stakeholders. CM

Repeat, Repeat and Repeat Again:

How The Hartford Embeds IoT Capabilities in Commercial Insurance Businesses

Dan Campany is Head of the IoT Innovation Lab at The Hartford. The Innovation Lab is responsible for using connected devices and data to mitigate risk, create distinctive customer value, and establish new revenue sources and growth channels. Campany has been with The Hartford since 2004. Prior to leading the IoT Lab, he served as AVP Enterprise Innovation, working with leaders across the company to uncover, explore and launch new technology and capabilities. Before that, he was head of business development, strategy and marketing for alternative distribution partnerships in The Hartford's Small Commercial business segment.

Matteo Carbone is the Founder and Director of the IoT Insurance Observatory.

Carbone is the Guest Editor of this special report on IoT insurance applications for *Carrier Management*. A frequent contributor, Carbone was also a guest editor for CM's 2018 featured magazine section, "Startups Face Off Against Established Players" (November/December 2018 edition; co-editor Adrian Jones) and CM's 2021 featured magazine section, "Insurance is Getting Connected."

Executive Summary: "IoT data will allow insurers to differentiate risk much more granularly than workers compensation code and payroll," observe The Hartford's Dan Campany and IoT Observatory's Matteo Carbone in this outline of The Hartford's strategy for applying IoT innovations across commercial lines.

Updating an earlier article they wrote for *Carrier Management* in 2021—"A Repeatable Model for Using IoT to Transform Commercial Insurance"—the authors lay out The Hartford's vision to use sensors and data to prevent losses, improve underwriting execution, and create differentiated value with new products and services. They go on to describe the repeatable process that allowed The Hartford to engage commercial property, commercial auto and workers compensation business units in the IoT innovation journey.

By Dan Campany and Matteo Carbone

The world is witnessing heightened interconnectedness. Sensors present in physical objects capture data and link to digital communication networks. The data can then be analyzed, precipitating the execution of "smart actions."

This interconnectedness paradigm, referred to as the Internet of Things (IoT), is becoming omnipresent in our personal lives as consumers and via its adoption by corporate entities. Examples include the proliferation of "smart" devices in the home for security and convenience, using mobile devices as keys to access hotel rooms, tracking fitness and physical activity with smartwatches, and coordinating aircraft by air traffic control.

It is not a question of *if* but *when* the IoT paradigm will reshape most industries. Data collected by IoT devices has enormous potential to transform and improve business processes, even in the insurance industry.

In our previous article in 2021 ("A Repeatable Model for Using IoT to

Transform Commercial Insurance”), we noted that the level of maturity in commercial insurance was still lower than in personal lines, “with many insurers clearly seeing the potential applications for IoT [but] still figuring out how to make the transition from ‘interesting technology’ to ‘scalable ROI.’” Even after a span of two years, we characterize the level of IoT integration in commercial insurance as nascent. A considerable number of carriers have yet to experiment with these solutions. Consequently, a noteworthy portion of the market continues to exhibit a constrained understanding of the IoT innovative potential.

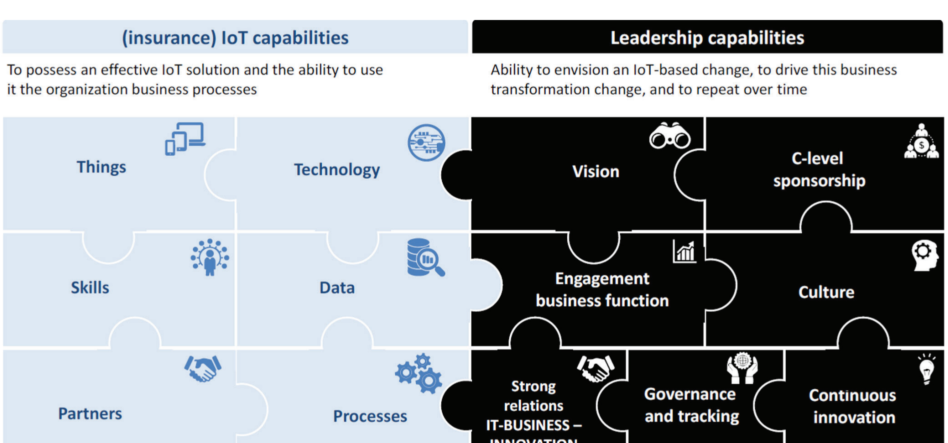
Nevertheless, members of the IoT Insurance Observatory regularly discuss successful IoT applications within commercial insurance with their think tank peers. These insurers share lessons learned using IoT data in commercial auto, commercial property, construction, marine, agriculture, workers compensation and even medical malpractice insurance.

The Hartford has prominently positioned itself in this surge of innovative practices within commercial insurance. The journey of The Hartford IoT Innovation Lab—created in 2019 and introduced in our previous article—has built a successful practice using IoT data. In the past two years, The Hartford has experimented with solutions that fit business units’ requests and implemented the use cases that showed a tangible value. Over time, adoption results in accumulating data for advanced analytics at the portfolio level, unlocking more use cases and benefits.

The Hartford’s IoT vision is to use sensors and data to 1) prevent losses, 2) improve underwriting execution, and 3) create differentiated value with new products and services. With the vision unchanged over four-plus years, early successes have bolstered sponsorship and business function engagement.

A specialized set of capabilities on devices, skills, data, partners and processes has been forged initiative after initiative. The Lab has built a repeatable model for experimentation, continuously reinforcing both the (insurance) IoT capabilities and the leadership capabilities. The model’s key pillars—common to different use cases and across different business lines—are:

- A use case always starts with clearly established strategy: What problem are we trying to solve? For which customers? How big (prevalent)?
- A deeper assessment of the target customer follows—building their profile, identifying their needs and the experience that will solve their pain points.
- The next leg of the journey, the approach, then begins by testing and incubating new capabilities that deliver near-term value at the account level to both the customer and insurer, which promotes more investment and adoption.



Source: IoT Insurance Observatory

> **In the past two years, The Hartford experimented with solutions that fit business units’ requests and implemented the use cases that showed tangible value. Over time, adoption results in accumulating data for advanced analytics at the portfolio level, unlocking more use cases and benefits.**

In The Hartford’s continuous innovation journey, the core focus is to:

1. Extend the awareness, understanding, and culture or mindset necessary for IoT innovation more deeply into the enterprise by continuing to deliver increased value.
2. Further broaden engagement both among different functions within a business unit where IoT programs have been introduced and across different business units.
3. Scale the successful experiments.

Repeating the Process: From Construction to Existing Property

In 2021, we wrote about The Hartford’s strong water damage prevention results in construction. In some cases, risk engineers recommended technology and real-time mitigation to customers; for others, the use of damage prevention technology and mitigations were required in order to be eligible for the coverage in accordance with documented underwriting guidelines. Over the course of five years, the approach in construction has resulted in a $25 reduction in expected losses for each dollar invested in IoT prevention solutions.

The successful experience precipitated an extension into other customer segments and property lines, most notably middle- and large-size buildings. In a continuous succession of experiments, this risk prevention capability for properties is currently being scaled and institutionalized into the core activities of the middle and large commercial segment.

Because of the compelling loss prevention results, The Hartford is offering these prevention solutions to customers in the portfolio and fully funding the

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technology solutions for office buildings, medical centers and educational facilities countrywide. For other occupancies, the customer may pay part of the costs because the resulting loss mitigation is insufficient to fully cover the cost of the sensor. This is a strong customer value proposition showing less than 7 percent of fully funded customers opting out when the IoT solution is offered.

However, just giving away free sensors doesn't make adoption easy. It is essential to identify and engage with the right employee inside the policyholder's organization in order to ensure adoption of the risk mitigation solutions. The Hartford sees a concrete opportunity to continue harvesting additional benefits, with the goal of achieving a three- or fourfold increase in the current level of penetration (15 percent) on the targeted customer portfolio. To do that, it is imperative to remove friction between underwriters, loss control experts, brokers and policyholders with streamlined process enhancements, better data quality and automation.

The carrier has observed a virtuous cycle where success creates positive awareness, yielding more adoption and support, leading to the expansion to more business classes over time.

The Hartford's vision is also to integrate IoT prevention solutions as a core component of its standard business model to insure properties. The IoT Innovation Lab is transitioning funding and ownership of this capability to the business unit, which the carrier believes is the right place to take the last leg of the journey, so the IoT team can refocus on "what's next," such as the extension to other use cases.

Repeat Again: Commercial Auto

The IoT skills developed along the journey by the IoT Innovation Lab have also been leveraged in the commercial auto telematics field for the past 18 months. A coordinated enterprise approach has been supported by strong sponsorship from senior leaders. Telematics is becoming a critical component of a winning commercial auto strategy because of the opportunity for competitive advantage: increased pricing granularity, reduced selection bias, accurate exposures identification, behavior modification, etc.

In 2022, an enterprise-wide Commercial Telematics Acceleration Team was created. It comprises business unit auto product leads, IoT tech and data, risk engineering, and claims. Their role is to accelerate and support the advancement of telematics-driven use cases in commercial auto. Initially, the effort focused on clarifying the vision, creating a common understanding and vernacular, and providing a mechanism to coordinate and share learnings across segments.

The primary focus has been on fleets that already have telematics installed, so relationships with most of the top 10 telematics service providers in the U.S., and many car makers have been built. Multiple experiments exist across various customer segments with different strategic objectives (such as behavior modification, exposure validation and premium leakage, and claim investigation).

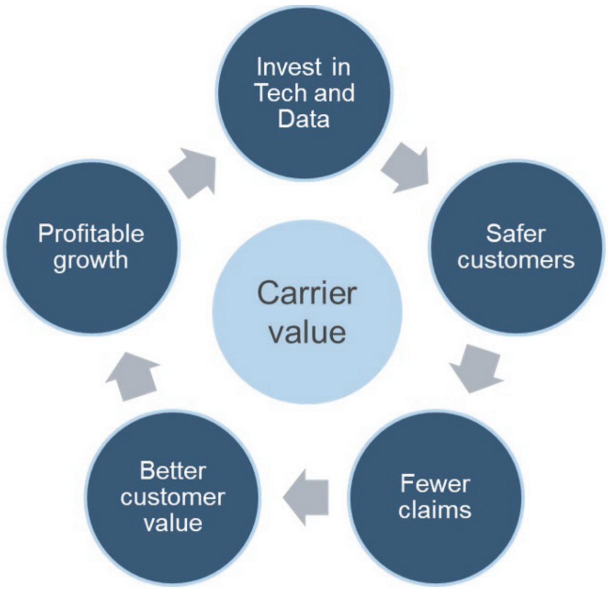
Much of the initial focus of experiments has been on evaluating the effectiveness and logistical considerations of customer incentives to share data (pricing, subsidies, services, usage-based insurance), and deriving a reasonable range of loss prevention benefits from tech-driven behavior changes (e.g., distraction, tailgating, speeding). Recently, a cloud database and API (application programming interface) connectors to land the data have been introduced. Leveraging these, the team has provided a first generation of insight dashboards to underwriters and loss control experts, allowing them to see unexpected outliers in behaviors and exposures.

"The workers compensation insurer of the future will master the IoT capabilities across its business functions."

Next Up: Workers Compensation

Worker safety has been a third area at the center of the IoT Innovation Lab effort since inception. The strategy is to win and retain profitable business by improving customer value with better ROI on employment expenses and lowering their total cost of risk as a natural by-product. Ultimately, there is a virtuous cycle where safety technology investments reduce claims, unlocking differentiated customer value in the form of lower premiums, higher productivity, improved employee morale, less lost time to injury, etc. With better customer value comes profitable growth, which unlocks the opportunity to invest for expanded customer value and the advantages of large datasets.

The Hartford's IoT programs for worker safety have revealed a precious set of lessons about the technology, the target segments and the insurance approach.



Technology. Wearable devices include: harnesses, belts, arm bands, hard hats, watches, etc. They can measure a variety of non-biometric safety-related attributes: lifting, twisting, bending, steps, elevation, falls, force, location, temperature, humidity, proximity to hazards, etc., as well as biometrics such as heart rate, hydration, blood pressure, blood oxygen levels, etc. The Hartford's focus has been exclusively on non-biometric wearable devices dedicated to ergonomic safety to mitigate the risk of injuries related to pains and strains.

Wearable devices follow the worker wherever they go on the worksite and provide deep insights at the employee level, which can be evaluated by the employer across job functions, shifts and other meaningful segmentation factors. This makes them effective at isolating ergonomic risk levels for both coaching and training on proper lifting technique, and at systemic identification and engineering of root cause risk factors (e.g., ergonomically incorrect workstation designs). Many ergonomic wearables also have built-in haptic feedback (vibration warnings) that alert a worker in real time when they are performing an unsafe movement and as a reminder to follow best practices for safe material handling.

"Not every worker in the same class code has the same risk; not even every worker in the same job function at the same employer on the same shift has the same risk."

Another technology category, computer vision, is a more nascent but rapidly evolving safety technology one. Computer vision algorithms or artificial intelligence (AI) can review video footage and identify key attributes much like a human, but with much greater speed and lower cost. The AI can be trained to look for a broad array of environmental and behavioral risk factors such as: lack of personal protective equipment, unsafe lifting, unsafe forklift operation, proximity of workers to equipment in operation, jumping/falling, etc. These solutions can generally be implemented with modern cameras that are already installed onsite. Whereas wearables follow workers around, cameras monitor a particular zone of activity.

Currently, The Hartford sees opportunities for both technologies in a risk engineering team's toolkit. Enterprises have different preferences between the two. Some customers have concerns about imagery being too invasive and lack of privacy. Others are concerned about how employees will view "being tracked" by wearables and how to incentivize employees to wear the devices all day, every day. For some job functions, a wearable can create an additional risk of injury or detract from productivity, whereas cameras do not affect a worker.

While cameras are also attractive for the breadth of risk factors they can detect, wearables offer rich data and insights about ergonomics not currently possible via a camera.

Target segments. The Hartford business cases have been more sustainable with material-handling exposures (such as manufacturing, warehouse and distribution) due to the substantial opportunity to reduce preventable losses.

Adoption has been better in self-insured operations compared to guaranteed cost policyholders, given the alignment of incentives to reduce injury claims.

Concerning technological interventions to enhance worker safety, we note that all except the most sizable and sophisticated employers stand to reap advantages from the support extended by their insurers. This is primarily due to the intricate nature of technology and data involved, which encompasses considerations of privacy, analytics, emerging legislation and the multitude of vendors. Building the requisite capabilities at an economically viable scale remains a pivotal factor.

The Hartford has focused on middle and large employers (50-plus employees per location). However, bringing safety solutions to smaller customer segments is becoming more feasible as the prices of technology solutions continue to decrease.

Experiments have reinforced the awareness that free devices do not create value if they don't improve safety. So, IoT must be the foundation of a systemic change in the risk environment or employee behavior.

Similarly, employers with a dedicated safety or risk manager on staff, who is influential in the company's culture and financial decisions, are more likely to effect change based on data-driven safety

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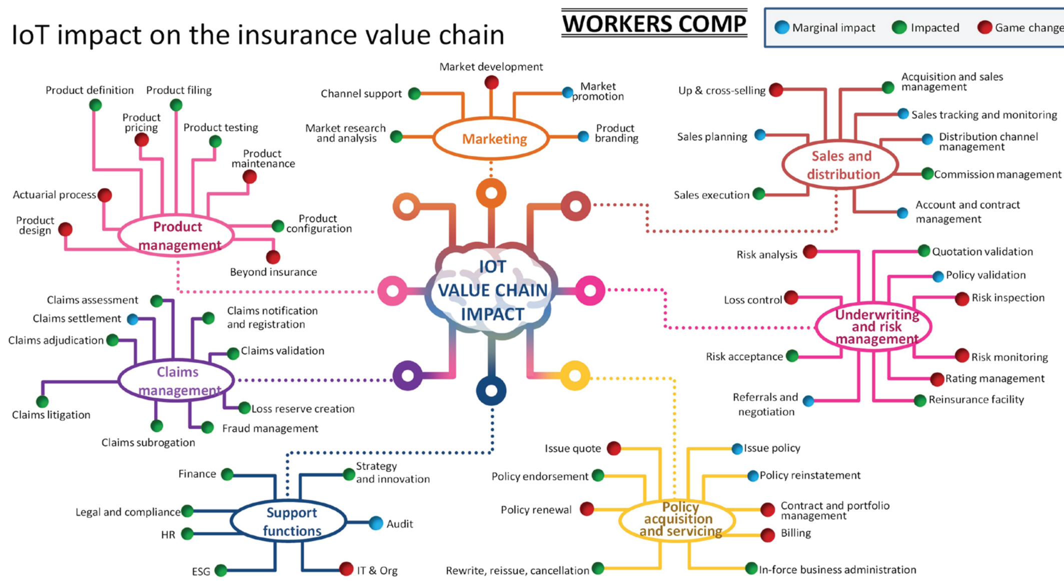
improvement recommendations.

The ideal target client is one who has room for improvement in claim outcomes and a strong desire to improve. That combination often proves difficult to find as employers with solid safety cultures tend to already perform well from a claims perspective relative to their peer group and vice versa. This is where the approach needs to contemplate how insurers and their risk engineering teams can create a compelling value proposition to incentivize technology-driven safety improvements.



Approach. Most deployments have focused on introducing behavioral changes to curtail the expected losses. The data collected, once analyzed, provides awareness of current hazards to the risk engineering teams and helps to suggest changes for a safer workplace. It is worth noting that the extraction of actionable insights for safety and risk engineering constitutes a nascent competency, the application of which needs to be learned on a customer-by-customer basis.

A necessary element is the policyholder's genuine commitment and investment in change management and better job stations. Various entities are testing policyholder incentives, such as premiums and profit-sharing incentives in the market. Further, there are untapped opportunities to enhance the effectiveness of employee-level incentive programs for behavioral improvements; there are no existing best practices beyond normal management routines.

This effort is considered from the perspective of The Hartford's broader vision: to help businesses stay in business by maximizing their most important asset—their employees. Safer, happier, more productive workers are good for business.

The ambition is to change the paradigm to compete on the cumulative value of a multitude of capabilities, including both services (risk engineering, tech advice, data insights) and risk transfer. The workers compensation insurer of the future will master the IoT capabilities across its business functions.

Insurance Value Chain

For workers compensation, IoT capabilities have the most transformative impact on underwriting and risk management activities, such as risk analysis, loss control, risk inspection and risk monitoring. This technology should be universally adopted in the risk engineering and loss control functions for both initial/episodic reviews and long-term ongoing monitoring. IoT-based curated insights can support the organization and the execution of loss control teams' activity.

Policyholder payroll audits can be revolutionized, or even not performed at all. IoT data will allow insurers to differentiate risk much more granularly than workers compensation code and payroll. Not every worker in the same class code has the same risk; not even every worker in the same job function at the same employer on the same shift has the same risk.

This evolution will unlock the opportunity to innovate the product structure to accommodate this better view of risk and may involve integrating IoT insights, or even replacing payroll, as the driver of exposure. For example, an insurer might consider using metrics such as the number of lifts performed, or hours worked multiplied by the risk level during those hours, as alternative measures of exposure. Drawing a parallel to the utilization of telematics data in the realm of personal auto insurance, described in another article in this edition (about Nationwide Insurance, p. 48), in workers compensation, too, this kind of evolution represents a game-changer for product management activities, rating management, and the entire cycle of policy issuance and servicing activities (issuing a quote, billing, managing contracts and portfolios, renewing policies).

In the claims area, when workplace accidents actually occur, IoT data may not have the same type of game-changing impact on insurer claims management activities that it is having in personal auto. (See related article, p. 51, for discussion of detection and fraud management.) Still, the IoT data will be a valuable supplement to the decision-making process, likely accelerating validation and assessment timelines and bringing down loss adjustment expenses. CM

Allstate's Telematics Strategy: Responding to Evolving Customer Needs

Executive Summary: "Do you need to call 911?"

To give customers peace of mind, Allstate launched Crash Detection in 2020, free for customers enrolled in Drivewise telematics program, giving those customers quick access to emergency help through the Allstate mobile app.

That's just one example of how Allstate leverages the dynamic, expanding capability of telematics to deliver personalized value for customers, according to Allstate's Susanna Su and the IoT Insurance Observatory's Matteo Carbone. Telematics helps Allstate customers get the best rates based on *their* driving, but price isn't all customers care about.

An Observatory survey conducted with Swiss Re found that automatic emergency assistance and anti-theft support ranks close behind safe-driving rewards.

By Susanna Su and Matteo Carbone

When consumers decide what to buy, they want companies to treat them as individuals: "Do you know my unique needs?" and "Will you be there for me when I need you?"

For insurers, the answers to these questions mean offering increased value. Carriers need to deliver experiences that go beyond premiums and claims to exceed customer expectations and gain their trust.

Technological evolution further amplifies this interest, as customers' protection needs become more complex. Insuring connected cars, electric and autonomous vehicles, and ridesharing prompts questions for carriers:

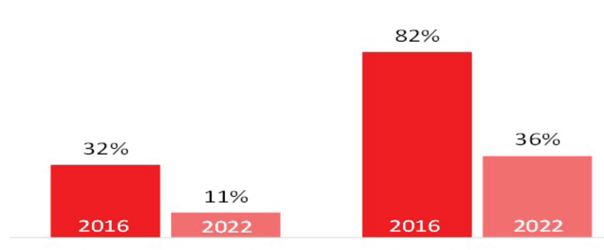
- "How much is this protection designed on customers' unique needs and risks?"
- Will customers feel more control in the face of more choices?"
- "What more value can be delivered to gain higher engagement and trust from customers?"

Telematics makes it possible to understand customers' individual needs and provide personalized solutions and value as those needs evolve.

When presented with an app-based telematics program that monitors driving behaviors and provides rewards for safe driving, crash assistance and other services, more than 50 percent of U.S. respondents in the 2022 Swiss Re and IoT Observatory survey (10,000 worldwide/ 2,000 U.S.-based) said they would recommend it to a friend. A mere 23 percent were reluctant, saying "no" or "definitely no." This resistance has markedly diminished among customers: The primary detractors (above 50 years old) are now at 36 percent, compared to 82 percent in a similar survey in 2016.

> "Telematics makes it possible to understand customers' individual needs and provide personalized solutions and value as their needs evolve."

Telematics Detractors



Source: Insurance IoT Observatory

Allstate was the first major U.S. insurer with a continuously connected mobile telematics product. Over the past decade, the company has built a remarkable success story, as Allstate and the IoT Insurance Observatory shared with *Carrier Management* in 2022. ("Telematics Has Kept the Promise: Allstate's Journey Continues")

The foundation of telematics is simple: Customers share data to obtain benefits for safe driving. Nearly one-third of Allstate brand auto customers opt into telematics when purchasing a policy, and Allstate's usage-based insurance portfolio has grown at over a 15 percent compound annual growth rate since 2020.

Susanna Su is Vice President of Telematics and UBI at Allstate.

Matteo Carbone is the Founder and Director of the IoT Insurance Observatory.

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For Allstate, telematics is a dynamic, expanding capability that makes it possible to deliver personalized value for customers while accelerating the company's transformation to provide affordable, simple and connected solutions:

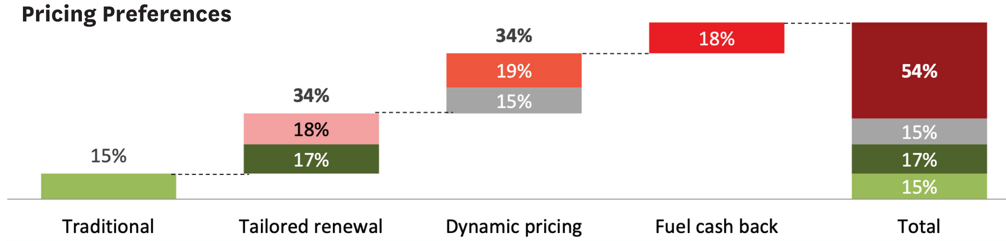
- **Affordable:** Customers have access to high-quality protection at a low cost that meets their needs.
- **Simple:** Customers have easy, hassle-free experiences, no matter how they interact with their insurer.
- **Connected:** Customers are connected digitally and feel like we know them, their situation and how to best meet their needs.

Looking at the UBI story worldwide, saving on insurance premiums has been the primary reason for a customer to choose telematics. With the cost of seemingly everything on the rise, customers are looking for ways to save on auto insurance. That's why telematics has expanded in the U.S.

But remember: Customers don't all have the same needs. Even when it comes to saving money, their preferences vary. The IoT Insurance Observatory and Swiss Re asked drivers their preferred pricing methods. Two significant takeaways emerge from the survey:

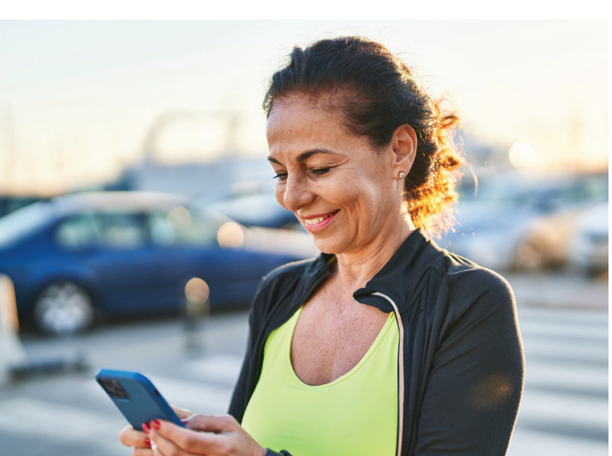
- **Diverse saving preferences:** There is a wide spectrum of preferences, ranging from a proclivity of traditional rate plans to benefits through fuel cash back based on driving behaviors. There is a significant opportunity for insurers to tailor their UBI offers based on customers' distinct preferences.
- **Benefit-driven interest:** Customers are more attracted to offers with the highest possible benefits by using their driving behavior data, even with potentially higher premiums. The three most preferred propositions (shown with varying shades of red in the chart above) show that the respondents are not fazed by the prospect of surcharges related to poor driving behavior when presented with the higher possible benefits.

Pricing Preferences



Traditional		**Traditional price** A traditional insurance policy where my premium is not dependent on my driving behavior
Tailored Renewal		**Small Discount no surcharge** Get a **small discount upfront** for signing up with a potentially **higher discount at renewal** depending on your driving behaviour. • Initial discount for signing up: Save **10%** • For each renewal your price is recalculated: save up to **20%** (compared to your current price) for safe driving; worst case you pay the **same premium**
		Large Discount with surcharge Get a **small discount upfront** for signing up with the possibility to obtain **a large discount at renewal** based on your driving behaviour. • Initial discount for signing up: Save 10% • For each renewal your price is recalculated: save up to 40% (compared to your current price) for safe driving; worst case you pay 30% more premium
Dynamic Pricing		**Mileage Based** Pay a weekly subscription plus a fixed fee per mile • **$29** a month plus $0,06 per mile driven • Additional free mileage can be earned if you drive safely • You can cancel your policy at any time without penalties
		Monthly change Pay a monthly subscription defined by your driving behavior • The first month you pay the same premium as you pay today • Each month your premium can **increase or decrease 10%** based on your driving behavior of the previous month • Compared with the premium you are paying today, you may save up to 40% based on driving behaviour; worst case you will pay 30% more premium • You can cancel your policy at any time without penalties
Fuel cash back		**Fuel cash back** Receive a reimbursement of your monthly gas bill based on your driving behaviour. If you drive dangerously, your premium could increase at renewal. • At first: you pay the same premium you are paying today, but receive up to 50% cash back on your monthly fuel spending (capped at $80 per month), • At each renewal: your insurance premium will be adjusted based on your driving behaviour (it can increase up to 50%), but receive cash back up to 50% your monthly fuel spending (capped at $80 each month)

Source: IoT Insurance Observatory

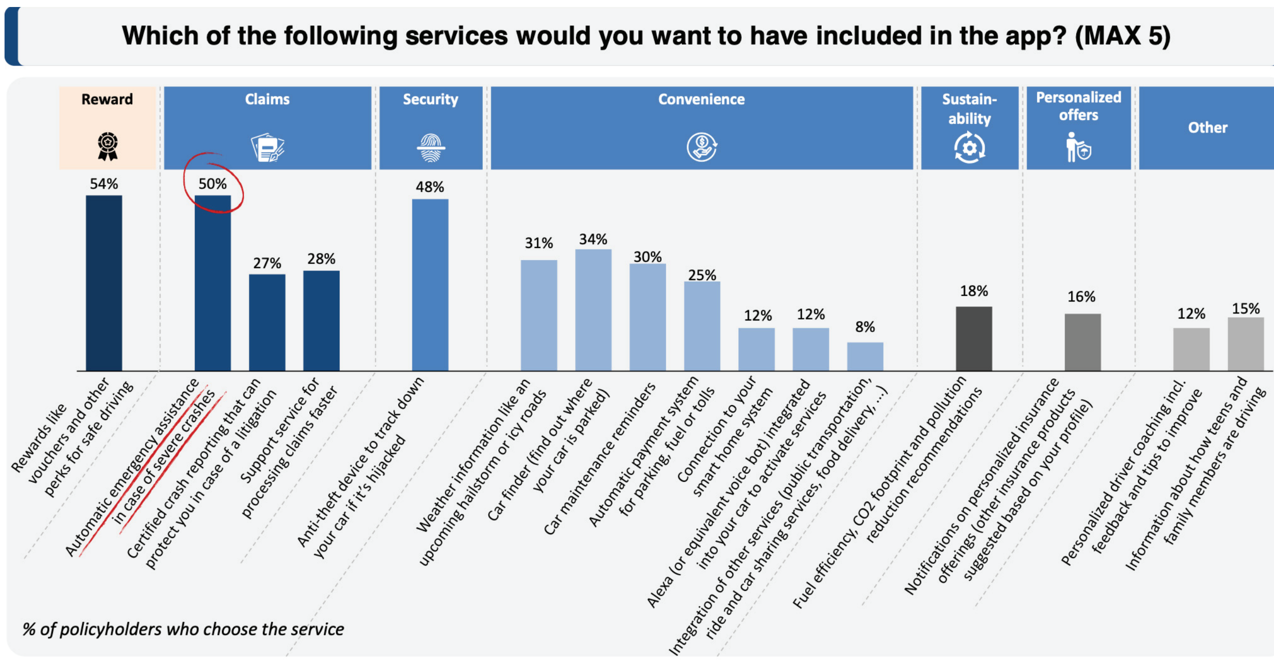


"Yes, price is key when customers are looking for value, but it's not all they care about. The more benefits an insurer can provide, the higher the engagement, loyalty and trust among their policyholders."

Allstate satisfies these customer preferences. With individual driving data, the insurer shows each policyholder what influences their price changes and how they can control them.

Allstate has two telematics programs to help customers save: Drivewise and Milewise.

- **Drivewise** personalizes the auto experience. It gives customers insights into their behavior to promote and reward safe driving. This data is also used to adjust the premium at each renewal.
- **Milewise** is a pay-per-mile product that invites drivers to "Drive Less, Save More." Most Milewise customers drive less than



Represented only the answers of the 1,546 policyholders (77% of the total sample) with a positive opinion about the telematics app but not open to switch

6,000 miles a year.

The appeal is improved pricing accuracy: Telematics helps Allstate customers get the best rates based on *their* driving. Individual driving and vehicle variables can more closely predict individual customers' risks. Evolving to discount for good risks and surcharge for poor ones, Allstate has continued to see noticeable higher retention for good risks, with strong overall retention, and no noticeable difference in telematics adoption.

And now many new Allstate customers don't have to wait until their policy renews to get the benefits of being a great driver. With their consent, the company can use driving and vehicle data from elsewhere, like family safety apps, to give a quote.

Yes, price is key when customers are looking for value, but it's not all they care about. The more benefits an insurer can provide, the higher the engagement, loyalty and trust among their policyholders.

These benefits include a sense of safety and convenience, thanks to an ever-expanding range of features and services accompanied by Allstate's hard work protecting customers' personal information. IoT can help insurers build a new relationship with customers by enhancing simplicity, connectivity and personalization, and making their lives easier.

For insights, the IoT Insurance Observatory and Swiss Re asked drivers to pick their preferred app features. Among U.S. customers, the top three are rewards, automatic emergency assistance in case of an accident and anti-theft support. Conveniences like weather info, car location finder, maintenance reminders and claims support are also popular.

To give customers peace of mind, Allstate launched Crash Detection in 2020, free for Drivewise customers. It gives them quick access to emergency help through the Allstate mobile app. When the telematics system detects an accident, the customer is asked whether they need to call 911, start a claim or request roadside assistance. If the app detects a serious crash, customers will receive a push notification from the Allstate mobile app to offer help. Customers can press and hold the notification or tap on it to see the help options:

1. Call 911, using the customer's prefilled phone number in the app.
2. Request 24-hour roadside assistance or file a claim.
3. Indicate if the crash is a false alarm (which is not required).

About 80 percent of Allstate telematics customers enable the notification function.

The Allstate mobile app has a long history of using innovation to make it easy for customers to connect with their protection and provide a seamless mobile experience that provides day-to-day value. Having telematics programs like Drivewise and Milewise integrated into the company's flagship app means that customers can find everything they need in one place. Allstate telematics customers engage with the Allstate mobile app three times more than other Allstate (non-telematics) customers who use it, leading to higher satisfaction and retention.

The telematics uses outlined in this article enable insurers to gain higher customer trust and loyalty by increasing benefits. Allstate will continue its transformation to meet evolving customers' needs by leveraging telematics capability to unlock value through affordable, simple and connected solutions. CM

Hard Reinsurance Market Fuels Innovation
in Risk Transfer

Executive Summary: Traditional reinsurance capacity is shrinking relative to increasing risk, and a new risk transfer product—the modeled loss transaction—is providing additional reinsurance protection to insurers. This article explains how the transactions work and the benefits to reinsurers, ILS investors and cedents. *(Editor's Note: One of the co-authors, Resolute Global, announced the launch of "Footprint," an MLT, which Resolute Global created in collaboration with global reinsurance broker Gallagher Re and catastrophe modeling firm Karen Clark & Co., a firm led by the second co-author, in April.)*

By Karen Clark and Tom Libassi

Over the last two years, insurers have been dealing with the most disrupted property reinsurance market since 1992.

As was the case in the post-Andrew era, reinsurers have abruptly hiked coverage costs, constrained capacity and limited cover by requiring higher retentions. Major reinsurers are pulling out of markets while insurers are pulling back from states like Florida and California.

Both now and then, systemic under-estimation of risk is largely to blame. Reinsurers now rely on catastrophe models to assess risk, and for the past 30 years, the focus has been on "tail" risks and probable maximum losses (PMLs). But the current disruption in the market has not been caused by an unexpected mega-event resulting in losses well above market expectations. Rather it's been caused, in large part, by the unexpected frequency of smaller losses from the so-called secondary perils.

The catastrophe models that have been used most heavily by brokers and reinsurers were designed to capture the large loss potential from infrequent, high-severity events like hurricanes and earthquakes, and it's been well publicized these models have failed to accurately assess the loss potential from the frequency (aka, secondary) perils like wildfires, winter storms and severe convective storms (SCS).

Frequency perils are more impactful at the lower return periods of the exceedance probability (EP) curves, and this is where the legacy models miss. It may seem counterintuitive, but the frequency perils are more challenging to model due to their amorphous and dynamic nature.

> "While there's little downside to reinsurers and ILS investors, the ceding insurer has to be confident the model used for an MLT can accurately estimate their indemnity losses for real events when they occur."

Other pressures on the higher-probability, lower-return-period losses include rising construction costs, shifting demographics, social inflation and climate change. Climate change, in particular, is

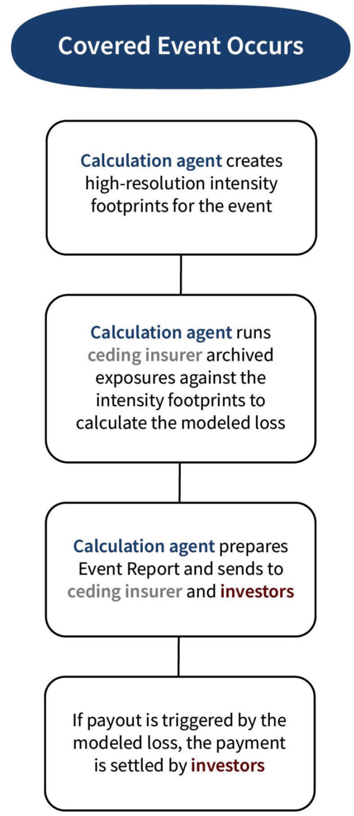
disproportionately increasing the chances of $20-$40 billion losses from hurricanes as well as from the frequency perils.

As these factors continue to increase the risk and therefore the demand for reinsurance protection, reinsurers have two choices. They can continue to restrict coverage and withdraw from markets, or embrace new models and technology and expand business opportunities with innovative risk transfer products.

Industry leaders who recognize growing risk can be an opportunity rather than a threat are choosing the latter.

The Modeled Loss Transaction

There's an important underwriting adage: There's no such thing as a bad risk, only a bad price. Reinsurers are pulling back from areas where they don't have the right tools to confidently price the risk. Reinsurers in retreat are concerned the losses they're paying out on reinsurance contracts are not being captured by the models they use to price those contracts.



The post-event process for a Modeled Loss Transaction

The new Modeled Loss Transaction (MLT) solves this problem. In an MLT, the payout is based on the modeled loss rather than the actual loss of the ceding insurer. The MLT relies on a calculation agent, typically the catastrophe modeler, to produce pre-event loss analytics and to model actual event losses as they occur.

To determine the modeled loss, the calculation agent runs a predetermined and archived database of policies and exposures through the model. MLTs also have been referred to as the "footprint" product because in order to estimate the loss, the first step is to produce high-resolution intensity footprints for the event. For example, high-resolution wind and storm surge footprints are required for a hurricane, and hail and tornado/wind footprints are required for an SCS event.

MLTs also can incorporate any agreed upon assumptions. For example, the ceding insurer may want to apply a factor to account for excess litigation in Florida or a specific demand surge function. These assumptions can be reflected both in the modeled EP curves used for pricing the transaction and in the modeled loss for a covered event.

This means there is complete symmetry between the transaction payout and the price, eliminating unpleasant surprises to reinsurers and ILS investors caused by loss inflation and model miss.

For providers of protection, the MLT solves many of the problems causing the current market disruption, including non-modeled or poorly modeled risks. Perhaps the most significant benefit of MLTs to reinsurers and ILS investors is the speed of settlement. It can take months or even years for the actual claims from large loss events to fully develop and settle. These long settlement times on indemnity contracts provide opportunities for

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Tom Libassi is the Co-Founder and Managing Partner at Resolute Global Partners. He chairs Producer's National Corporation and serves on boards of key InsurTech ventures, as well as Lloyd's investment vehicle, Helios Underwriting, and the National Public Pension Fund Association. Previously, Libassi held key positions at Strategic Value Partners and GSC Group.

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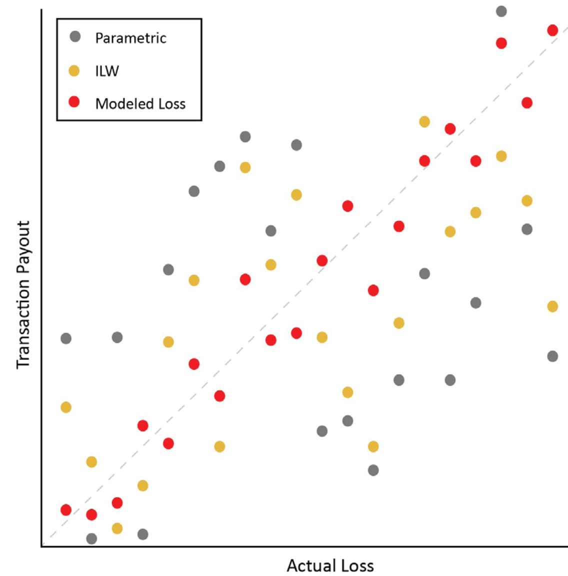
loss creep and result in trapped capital, which limits flexibility, investment opportunities and returns. Uncertainty about the ultimate loss and subsequent tied-up capital is one of the biggest challenges investors have experienced with indemnity contracts.

Conversely, new high-precision models can accurately estimate the losses from actual events within days of occurrence such that an MLT can easily settle within 30 days. This rapid settlement provides quick liquidity to ceding insurers and eliminates the risk of adverse development as well as trapped capital for reinsurers and investors.

While there's little downside to reinsurers and ILS investors, the ceding insurer has to be confident the model used for an MLT can accurately estimate its indemnity losses for real events when they occur. Otherwise, there would be too much basis risk, and the transaction wouldn't be viable. The model underlying an MLT must demonstrate skill in reproducing the insurer's actual claims and losses over a large enough set of historical events.

To test a model's skill, an insurer should be able to download high-resolution intensity footprints into the model along with its own contemporaneous exposure data to test how well the model estimates actual claims and losses for each historical event, ideally going back at least 10 years. For most perils, this should provide a sufficient basis risk analysis.

"Studies conducted by KCC scientists and other experts show that MLTs more closely align an insurer's actual losses with the transaction payouts than alternatives."



Relative basis risk for ILWs, parametric solutions, and the MLT

Options for Cedents

Indemnity covers provide the ideal protection for ceding insurers; however, it can be prohibitively expensive to purchase as much cover as the ceding insurer would like. Currently ceding insurers can use supplemental, lower-priced coverage such as parametric (payment triggered by a specific metric such as windspeed) and ILW (payment based on industry loss versus insurer-specific loss) transactions, but these come with their own drawbacks.

Parametric triggers, for example, are most suitable for companies with one large facility or a highly concentrated book of business. Conversely, for insurance companies with diversified books, by line of business or geography, the basis risk can be very large with a parametric product.

ILWs carry two levels of basis risk for the ceding insurer—there can be inaccuracy in the estimated industry loss, and an event can cause damage in areas where the ceding insurer losses are not highly correlated with the industry. ILWs do not solve reinsurer and investor challenges of adverse development and trapped capital.

New high-precision models are able to accurately estimate the losses from actual events soon after they occur, thereby reducing both basis risk and settlement times on the transactions.

Structuring the Transaction

The first MLTs have covered the SCS peril, underscoring the MLT's ability to address the frequency perils that traditional reinsurers now want to avoid.

While a single SCS event is not likely to result in a solvency-impairing loss for most insurers, the accumulation of many small to moderate-size losses can result in multiple hits to retentions and negatively impact financial results. An MLT can be structured to protect retentions as well as large losses from major events.

MLTs offer complete flexibility with respect to transaction design. Even annual aggregate covers—essentially non-existent in the traditional market for the past several years—are being offered to insurers on a modeled loss basis. The fact that the pricing can be completely aligned with the payout makes even annual aggregate transactions interesting to investors.

MLTs can cover any type of modeled peril, including hurricanes, earthquakes, winter storms and wildfires. And they can be used for insurer-specific portfolios or the industry as a whole in ILW contracts.

As reinsurance supply struggles to meet growing demand, the MLT offers a solution. High-precision modeling paired with the MLT structure enables reinsurers to expand capacity with confidence, and by attracting new capital, the MLT can ease tight conditions and help the industry remain resilient and relevant in a world of ever-increasing risk.

Rather than retreat in the face of escalating risk, insurers and reinsurers equipped with high-precision models and innovative structures for risk transfer can turn the threats of growing loss potential into opportunity. CM

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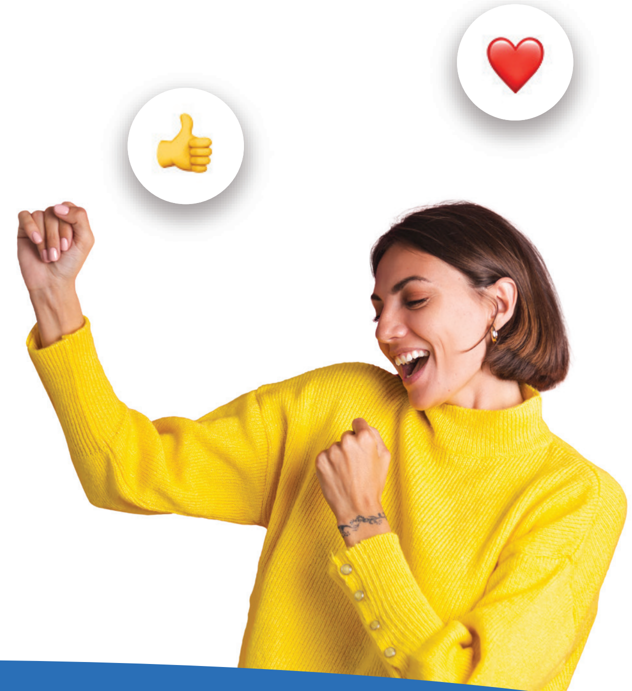

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