Personal lines currently garner much of the focus in InsurTech, both in terms of disruptive distribution and sophisticated data services. This is understandable given the much larger volumes of data available and the drive for excellence in client experience, and we expect the attention on this part of the market to continue. However, high levels of frictional cost and stagnant pricing, coupled with ongoing technical advances, mean that commercial insurance is also increasingly ripe for transformation.

Technology focusing on back-office insurance operations and advanced decision support systems is already beginning to deliver intelligent automation that will ultimately provide an environment where cognitive systems learn and adapt in real time. While the artificial intelligence (AI) portrayed in movies is futuristic, current AI is making it increasingly possible to provide sophisticated automation and real-time decision support across a commercial organization.

Robotic process automation (RPA), which effectively replaces tasks with a software robot, is the most common approach for automating technology currently being used across the industry. By coupling RPA with layers of expert decision algorithms, robust data integration and a real-time decision support platform, it becomes possible for insurers to deliver consistent, accurate and informed decisions in underwriting, pricing and claims — thereby supporting their teams through intelligent automation.

“Intelligent automation” can benefit commercial insurers as well as the more data-intensive personal lines sector, despite the constraints legacy IT infrastructure may present.

To make this possible there needs to be an environment that combines advanced analytics with an agile real-time decision engine, allowing insurers to radically reduce the cycle time between identifying a market issue and deploying a response strategy. Using a real-time decision support engine such as Willis Towers Watson’s Radar, coupled with data integration “accelerators,” insurers can benefit from sophisticated pricing, underwriting and product management that supports faster and more consistent decisions in a matter of hours rather than weeks or months. Moreover, a platform of this sort, when loaded with tools to handle both structured and unstructured data, can provide the basis for an emerging AI system that can improve with time and data.

Some entrepreneurial insurers are deploying this technology at the edges of their businesses or with specific products — often building upon underlying mainframe platforms. Wider enterprise transformation will require access to consolidated internal and external data with smart scores, unstructured data insight, and integrated data that feeds through to clients and brokers. These developments are now increasingly feasible, even when the underlying system of record or the policy administration platform is based on legacy technology. We think of this approach as an outside-in transformation of legacy infrastructure.

Outside-in legacy infrastructure transformation

A fundamental problem for most insurers until now has been that legacy mainframe platforms rarely have the connectivity or flexibility required to efficiently and effectively operate in today’s markets. Furthermore, they typically contain a range of critical elements, such as core transaction data, billing and general ledger, which are costly and time consuming to replace. This often puts strain on mainframe replacement business cases.
Therefore, wrapping the existing platform in new functionality and leaving the systems of record replacement until the end of the project can accelerate the deployment of value-adding components — changing the dynamics of the business case. A strategy of "connected specialist systems" allows rapid deployment, removes program risk and changes the business case by providing the benefits of automation and improved portfolio management before the need to replace the core systems of record.

Beyond the technology itself, wider cultural, data management and process elements are also required for a successful transformation. Running parallel work streams around people, technical underwriting and IT at a functional level helps accelerate important components or capabilities — for example, building the understanding of a portfolio, sector or underwriting process while reducing the overhead and distraction of keying data in again. There is a strong link here to an organization's target operating model that is especially relevant when offshoring costs are rising. Why offshore an inefficient process when deploying intelligent automation to make it more efficient could also make it more cost-effective to keep in-house?

### What might intelligent automation look like?

Depending on the portfolio nature, focus and business mix, commercial insurers could target a range of outcomes from applying intelligent automation. For example, insurers could:

- Operationalize data and analytics directly across the underwriting process.
- Use empirical measures to increase the likelihood of selling/renewing business.

- Maximize underwriters’ time by ensuring they focus on high-value targets/opportunities first.
- Collate and monitor distribution analytics.
- Allow actuaries and data scientists to test the impact of ideas before they are deployed.

As an example, for commercial renewals — which typically represent around 80% of a commercial insurer's total business — a suitable technology framework would make it possible to set up sophisticated automated footprints rather than single premium or exposure variables. These footprints identifying the insurer's appetite could operate in multiple dimensions and be linked to sophisticated pricing and underwriting rules. Dimensions that could be analyzed, scored and deployed include:

- Trade and process
- Geospatial variables
- Absolute and relative risk performance of the account (e.g., loss history)
- Intermediary behavior (e.g., how will the broker react to different price scenarios?)
- Market norms (e.g., what adjustments are possible in the prevailing market?)
- Large loss potential (e.g., using machine learning algorithms)

Such an expert environment would execute smart decisions about whether to automate and what actions to take (Figure 1). The result should be a greater percentage of the book automated to a higher degree of pricing or underwriting precision.

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**Figure 1. Illustrative automated judgment layers for commercial pricing renewals**

<table>
<thead>
<tr>
<th>Application of layered intelligence and rules</th>
<th>Outcome: sophisticated automated footprint with tailored responses for each individual policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade — exposure and complexity</td>
<td>Deploying the company’s appetite and underwriting rules</td>
</tr>
<tr>
<td>Geography (e.g., cat strategy)</td>
<td>Filtering across the geographical dimension</td>
</tr>
<tr>
<td>Performance</td>
<td>Absolute and relative metrics, comparing “risks like these”</td>
</tr>
<tr>
<td>Large loss potential (potentially machine learning algorithms)</td>
<td>Understanding the relative impact of a policy on portfolio volatility</td>
</tr>
<tr>
<td>Distribution analytics</td>
<td>Understanding individual broker behavior</td>
</tr>
<tr>
<td>Market environment</td>
<td>Market norms and demand insight – e.g., the ability to carry increased premium if there have been recent claims</td>
</tr>
</tbody>
</table>

*If the policy is referred for underwriting intervention, the data would flow with the referral and create decision/negotiation support insights.*
The ability to acquire and integrate data across the layers is also a prerequisite to supporting intelligent automation (Figure 2). This includes the potential to augment analysis with third-party data enrichment, including unstructured data assets and information from various fintech sources, such as survey data, that can contribute to a better outcome.

### Eye on the prize
Unsurprisingly, the outcome sought by virtually all insurers looking at what greater automation may have to offer is to enhance business models while making substantial cost savings across product portfolios.

While the benefit cases are often significant, results are typically not fully realized due to the cross-functional nature of these transformation programs. With a variety of stakeholders, difficulties can arise without clear governance to determine which business function is responsible for which business component, and this sometimes affects the nature of the transformation. Focusing exclusively on one area without a wider plan leads to suboptimal outcomes. Critical areas of thinking need to include:

- **Data strategy.** Data, both internal and external, are key assets and will underpin the majority of the functional changes and the business case. A common mistake is to think about data after software choices have been made, and then alter the scope of data storage and access.
- **Analytics.** Where is intelligent automation and decision support required?
- **Underwriting operations.** What processes are key to the transformation, and how can we reframe them? In some projects we have seen, there has been an overreliance on efficiency savings in the business case, which has unadvisedly driven priorities.
- **Case underwriting.** What tools, insights and data do the underwriters need to make decisions quickly and effectively?
- **Portfolio underwriting.** What environment and tools do the product leaders need to help steer the portfolio?
- **Pricing.** How do you ensure actuaries and data scientists are seamlessly linked into the environment?
- **Claims.** How can the environment leverage data assets from both communities to better serve brokers/agents and end customers?
- **Leadership.** How will automation of the production of management information and insight aid an agile and informed strategy?
- **Brokers and customers.** “If I build a portal they will log in and find my products.” This is not always a given; insurers need to be mindful of integrating with brokers’ processes and tools, and get their input when developing execution plans.

**Staying agile with InsurTech**

It is also worth remembering that opportunities are not confined to pure automation or process change. Commercial underwriting decisions will often require human intervention, and the same environment and technology can provide invaluable decision support for technical pricing, negotiation and portfolio management.

Consequently, intelligent automation certainly appears to foster competitive advantage in the commercial insurance marketplace. Market movement is also likely to include further cooperation between incumbent insurers and companies with interesting technology, be they established or early stage. Those that can provide or support the better use of internal and external data assets, offer novel scoring algorithms and enable cognitive insights from unstructured data assets should be valuable allies as more commercial insurers look to benefit from what automation may have to offer.

**Case study: Analytical support for case underwriting**

An insurer with a specialist liability portfolio wanted to develop enhanced analytical support for allocating capital down to the portfolio segment level due to limitations it saw in using loss ratio as the only measure of a volatile, capital-hungry portfolio with a potentially long tail. In order to introduce its preferred return on capital approach, it needed to assess capital requirements down to the trade group or hazard group level and, possibly, even down to the individual contract level within the portfolio.

Using the insurer’s own data and industry-level data, Willis Towers Watson modeled a solution on a frequency and severity basis, but with a view on the extent of the tail not yet evident in the data that would be a key driver of capital allocation and profitability. As it progressed, the project unearthed a number of risk factors that were being considered by individual underwriters but were not being captured on the administration platform.

The intelligent automation of an analytics-based approach provides a basis for allocating capital within a portfolio that is capable of being replicated across other portfolios. It also helps drive more accurate pricing and decisions around both individual cases and a portfolio mix, which will deliver a more balanced result over time. Other outputs included consistent guidance for underwriters on key risk factors to assist decision making, and revisions to licensing and case referral parameters, ensuring that the commensurate level of expertise is deployed on a risk.

Some entrepreneurial insurers are deploying intelligent automation technology at the edges of their businesses or with specific products.

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