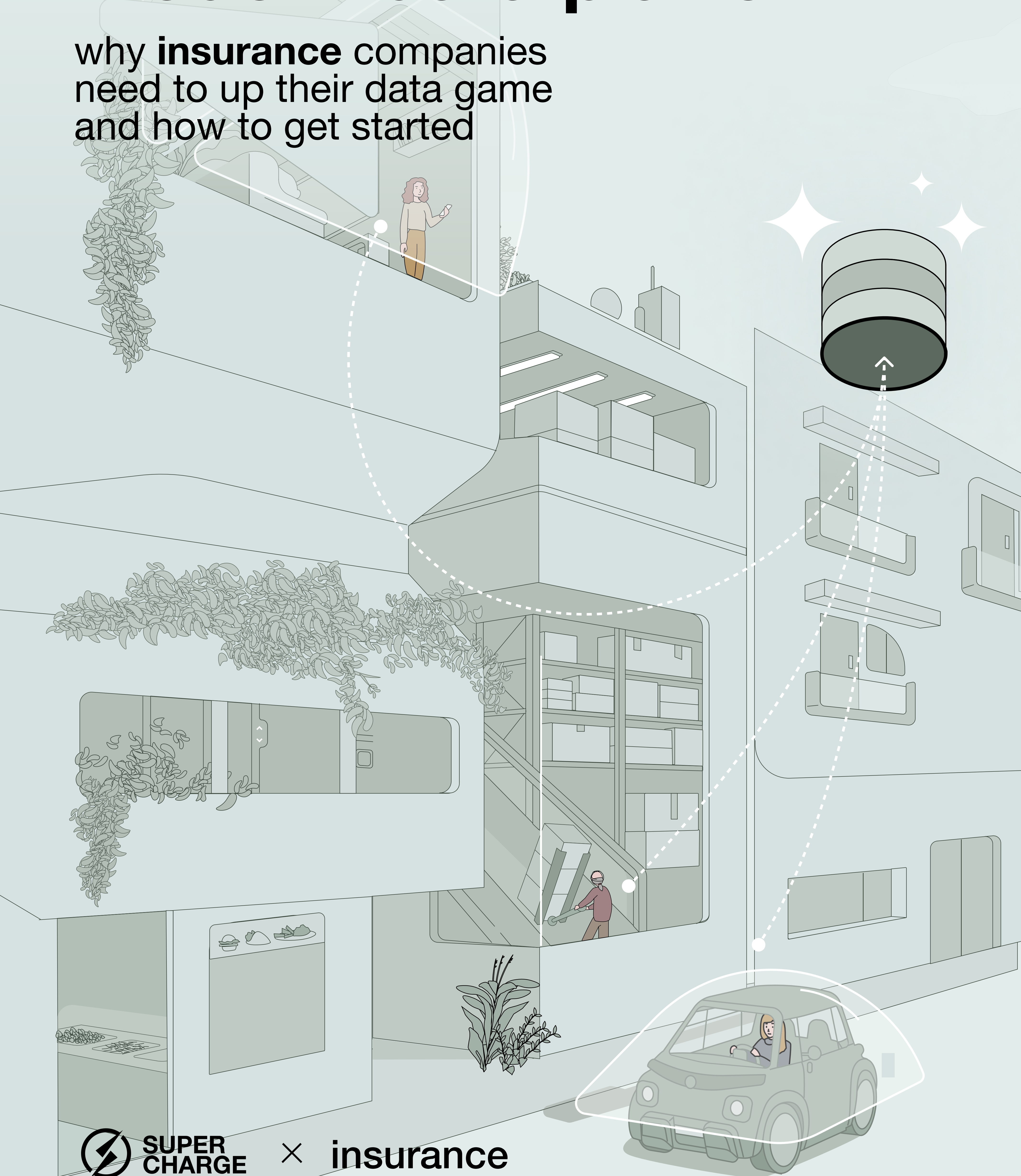


why **insurance** companies need to up their data game and how to get started

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your shortcut to understanding modern data platforms

Our guide aims to answer a simple question: what defines a modern data platform for an insurance company? Decision makers need clear benchmarks to assess their current position and define objectives for their business. This paper provides a practical overview for both business and technical decision makers.

As the AI race becomes everyday reality, decision makers in the insurance industry must prioritize building strong data infrastructure and reliable data platforms. Without a solid foundation, advanced AI projects struggle to deliver value. Effective data platforms simplify access to clean, consistent data, making it easier to integrate AI tools into daily operations. For insurers, this means quicker decisions, better risk management, and improved customer service—key factors for staying competitive



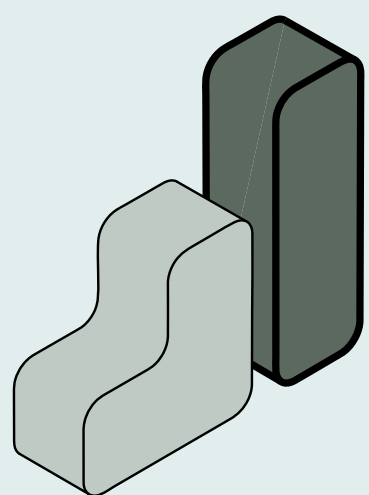
Gergo Pota
Head of Data and AI
@Supercharge

why do you need a modern data platform?

Data-Driven Excellence in Insurance

powered by a Modern Data Platform (MDP)

- Having a modern data platform today is the **foundation of tomorrow's AI development**. It ensures that the data is clean, structured and ready for cutting-edge AI projects
- Supports better risk assessments and informed decision-making by providing **high-quality, real-time data and analytics**
- **Improves operational efficiency** - automation and streamlined data processes reduce manual effort, increase claim processing speed and minimise errors
- Enables simpler implementation of the latest data governance and security standards, significantly **reducing exposure to risks and ensuring regulatory compliance**
- Facilitates **data-driven performance measurement and reporting**, enabling insurers to demonstrate operational efficiency and business success to investors and stakeholders



70% of insurers plan to deploy real-time predictive AI models within two years,
30% of insurers claim to have those capabilities today

Source:
<https://www.propertycasualty360.com/2024/11/12/the-insurance-industry-is-at-an-ai-adoption-crossroads/>

A modern data platform is the connecting tissue of all your business data, such as claims, policies and market trends.

Organisational adoption of a modern data platform should be straightforward. This is not another tool your employees need to master as it seamlessly fits in your company's existing workflows.

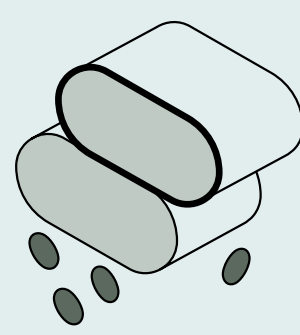
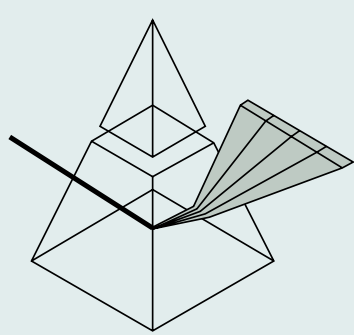
A modern data platform is the foundation of innovation efforts in the next 5 years

AI today means producing complex predictions at scale with increasing accuracy. Having a modern data platform lays down the foundations for this

- AI results are only as good as the data that powers them. Everything begins with your data infrastructure.
- Fraud detection models needs to use spotless, connected data to efficiently analyse patterns
- Claims automation powered by AI-driven assessment is now a reality, and your competitive edge comes from your unique data
- With a modern data platform insurance carriers can enhance their underwriting models by processing vast amounts of data from IoT, health records, and financial sources

in practical terms, what makes a data platform “modern”?

and what are the signs that a data platform might be stuck in the past?

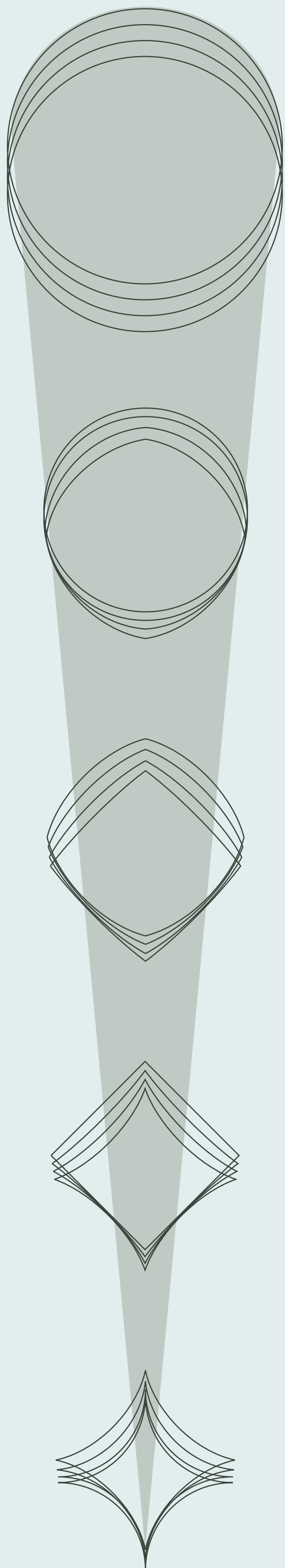


Benefits of a Modern Data Platform	Without a Modern Data Platform
<ul style="list-style-type: none">❑ Cloud scalability Adapts to any business size. A modern data platform on AWS, Azure, or GCP can scale easily for a startup or a Fortune 500 insurance carrier.	<ul style="list-style-type: none">❑ Stick with a rigid infrastructure On-prem systems require expensive upgrades and struggle to handle spikes in data volume.
<ul style="list-style-type: none">❑ Simple & cost-efficient Optimized for value. Serverless architectures like Snowflake or BigQuery reduce infrastructure overhead and eliminate unused capacity costs.	<ul style="list-style-type: none">❑ Increasing manpower just to stay afloat Legacy systems demand dedicated maintenance teams, driving up avoidable operational expenses .
<ul style="list-style-type: none">❑ High-performance architecture that is fast & reliable Real-time analytics with Databricks or Redshift enable instant risk assessment and fraud detection.	<ul style="list-style-type: none">❑ SQL optimization by itself cannot deliver sufficient performance Outdated databases create delays in claims processing and underwriting decisions.
<ul style="list-style-type: none">❑ Future-proof solutions AI-driven analytics, automated ML pipelines, and real-time streaming data to drive innovation.	<ul style="list-style-type: none">❑ Limited innovation Sticking to traditional SQL-only systems prevents AI, IoT, and unstructured data integration.
<ul style="list-style-type: none">❑ Full control & governance Enables strong security and compliance. Role-based access, data encryption, and compliance with ISO27001 and SOC2.	<ul style="list-style-type: none">❑ Security vulnerabilities Lack of automated governance can lead to data breaches, compliance failures, and reputational risks.

Moving away from traditional data warehouses is no longer optional for insurance companies - it’s a strategic necessity.

Modern businesses demand faster innovation capability, streamlined operations, and cost-efficient solutions that traditional data systems simply can’t provide.

common roadblocks: what's preventing organizations from adopting an MDP?



1. Legacy core systems

Legacy core systems impede effective data integration, and outdated data warehouses cannot accommodate diverse data streams, resulting in compromised data quality and governance. Studies show that "legacy software can eat up 70–80% of an insurer's IT budget," making modernisation a costly and complex challenge.

2. Data siloing

Legacy infrastructure often results in data silos, preventing an easy transition to a modern data platform. Different business lines (e.g., underwriting, policy, claims) use separate data and analytics applications, creating a fragmented landscape. A single KPI might be calculated differently across teams, making it difficult to gain a unified view of customers or operations.

3. Data Quality issues

Poor data quality manifests as missing data, inconsistent formats, duplicates and outdated information. When disconnected systems fail to sync, policy data may not align with claims data, and customer records may exist in multiple places with slight

4. Cultural aspect

Even the most advanced data platform delivers little value if it is misused or underutilised. Addressing technical challenges is one thing, but ensuring effective organisational adoption is equally critical.

5. Timing and investment

Moving away from a legacy data warehouse is inevitable. Delaying this decision only increases technical debt—the longer you wait, the more difficult and costly the transition becomes, leaving your organization at a growing technological disadvantage.

how to start your journey towards an MDP

To get started an insurance company needs...

- **a cloud-based flexible data platform** with adaptable data management technologies
- capabilities to **process data rapidly and prepare it efficiently for reporting**, enabling real-time insights
- **federated data pipelines** (which are interconnected yet distributed) capturing and storing large amount and high variety data
- **fully connected data landscape** linking customers, claims, and policies to eliminate silos and enhance data quality
- these systems must offer **high availability** with comprehensive **security management**
- **advanced analytics** capabilities that not only recognise factual data but proactively identify patterns and connections across the entire data landscape



It's not an easy task to tick all these boxes. Insurers need a robust data strategy that aligns with their overall company objectives to achieve success.

A methodical, structured approach is essential for insurers to transition successfully from legacy systems—or even to launch a greenfield project from scratch—to modern data platforms.

Here are the key initial steps insurers should take for a swift transition to a Modern Data Platform:

1

Define goals and business objectives - ensure alignment with company strategy

- Identify the data and AI capabilities you want to develop
- Explore how a Modern Data Platform can support your goals
- Assess your critical improvement points and opportunities
- Determine regulatory and security requirements

2

Analyse the current state and find the gaps

- Assess existing capabilities and conduct a data maturity evaluation.
- Audit data sources, systems, and processes to pinpoint limitations.
- Identify and document all data quality issues.

3

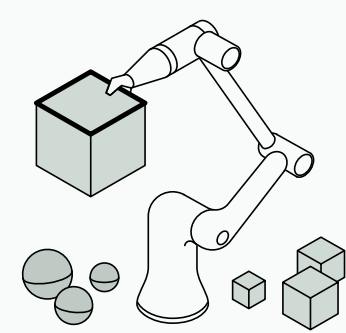
Develop a phased implementation roadmap

- Prioritize initiatives based on business impact, ROI, and feasibility (build a strong foundation before advancing to AI capabilities).
- Define clear data integration and migration strategy (coexistence vs rip-and-replace)
- Set timelines, define milestones and establish KPIs to track progress and quantify improvements

... but the work doesn't stop there! Laying the foundation is just the beginning of your data-driven insurance transformation.



4 advanced AI use cases enabled by MDP

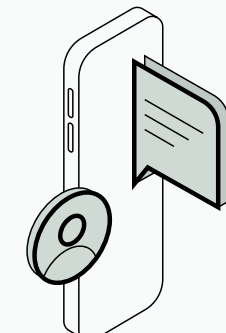


Automate the underwriting process

In Property & Casualty insurance, AI-powered underwriting streamlines risk evaluation, accelerates decision-making, and enhances the customer experience. A structured approach includes:

- 1.) **Data readiness and integration:**
Ensuring standardized, high-quality data for underwriting models
- 2.) **Risk Assessment with AI & Predictive Analytics:**
Machine learning models process applications based on historical claims data, external sources, and behavioral patterns, classifying them as high, medium, or low risk.
- 3.) **Automated decision making:**
Low-risk cases → Fast-tracked for auto-approval or rejection

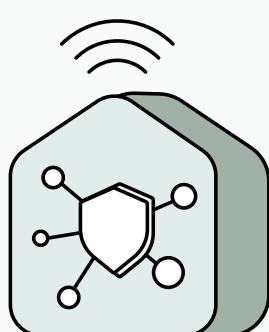
Medium and high-risk cases → Sent for human review



Customer Service efficiency with AI Virtual Assistants

AI-powered virtual assistants enhance customer service by providing 24/7 support for policy inquiries, claims processing, and coverage explanations. They utilize structured policy data, past interactions, claims history, and external sources to deliver accurate, context-aware responses. By automating routine queries, they reduce workload for support teams and improve response times.

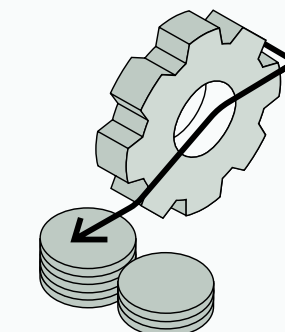
- Benefits:
- Faster, more efficient interactions
 - Reduced manual inquiries for support teams
 - Quicker issue resolution
 - Enhanced customer experience with personalised, context-driven responses



AI-driven IoT & Telematics for proactive risk prevention and fraud detection

IoT devices and telematics transform risk assessment by delivering real-time insights into vehicle usage and home security. A modern data platform is essential to process continuous data streams efficiently. With AI-driven analytics, insurers can proactively mitigate risks while enhancing fraud detection through automated data verification.

- Benefits:
- Improved risk evaluation and prevention through real-time data utilisation
 - Fraud reduction, as AI verifies IoT data for inconsistencies
 - AI-driven anomaly detection for proactive risk mitigation and preventive recommendations
 - Personalised premiums, leveraging AI-powered analytics



Personalised pricing, real-time premium adjustment

AI-driven pricing models allow insurers to move beyond static risk categories and offer real-time and personalised premium adjustments. By continuously analysing telematics, IoT data, and external environmental factors, AI refines risk assessment on an ongoing basis. This enables insurers to offer more accurate, fair, and competitive pricing that adapts to individual behaviors and changing conditions.

- Benefits:
- Real-time premium adjustments based on evolving risk factors
 - More precise, data-driven pricing for policyholders
 - Enhanced underwriting accuracy, reducing financial risk
 - Increased market competitiveness through adaptive, personalised pricing strategies



VYRD



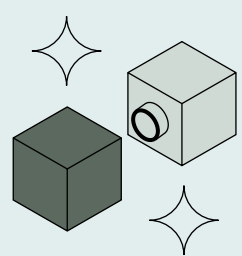
SUPER
CHARGE

a Florida based carrier's journey towards a modern data platform

What is VYRD?

The Florida homeowners insurance market is notoriously difficult for carriers to service. High incidents of fraud and high operating costs have stifled business - causing property insurance companies cancel policies, leave the state, and liquidate at an increasing pace. Supercharge supported VYRD from the launch of the carrier - the first Florida-domiciled Property and Casualty insurer licensed in the state in over 3 years.

Our rapid delivery created a desperately needed option for Florida residents who have experienced increasing cost and decreasing choice for protecting their homes.



The solution

1

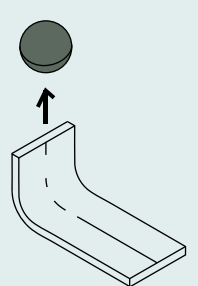
Designed and implemented a modern data platform in Google Cloud using serverless services to have a scalable, secure and centralised data foundation for VYRD.

2

Built a **lakehouse** (unified data platform) that seamlessly ingests, cleans, and combines data from multiple sources (claims, IoT sensors, policy admin, web experience). This supports automated KPI reporting and enables contextual customer communications.

3

We streamlined VYRD's marketing operations by integrating a marketing platform to their data warehouse and adding custom-defined customer segmentation into the system.



The benefits

- **Scalable and cost-efficient** – Serverless architecture in Google Cloud ensures flexibility and minimises infrastructure costs.
- **Unified data foundation** – The lakehouse enables seamless integration and automation for KPI reporting and customer insights.
- **High-performance analytics** – Optimised data processing allows for real-time insights and radically faster decision-making.

- **Enhanced security and governance** – Centralized controls ensure compliance, data protection, and access management.
- **Improved marketing effectiveness** – Data-driven customer segmentation enables personalized and targeted campaigns.



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about Supercharge

We are a next-generation product innovation agency driving growth, efficiency and resiliency for our partners. We create smart product strategies, craft delightful customer journeys and build robust, AI-driven software to turn some of the most challenging digital initiatives of our partners into success stories.



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