
AWS
re:Invent
NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

PRT271

Why use AI in insurance underwriting and claims?

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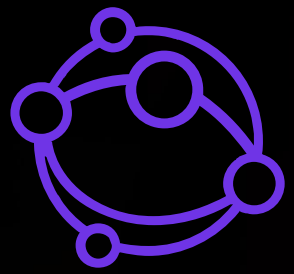
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Agenda

- What is happening in the industry?
- What value is AI driving?
- What problems is AI solving?
- How are we solving them with AWS?
- How do we ensure responsible AI?

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What is happening in the industry?

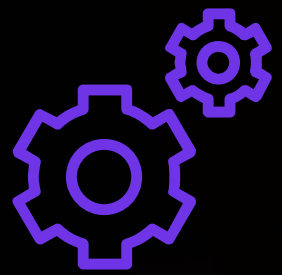


AI ranked consistently as the top game-changing technology in Gartner's CIO surveys over the last three years (2019 to 2021)



80%

of executives say AI can bring more value



Only 44%

say their organization is currently advanced in use of automation



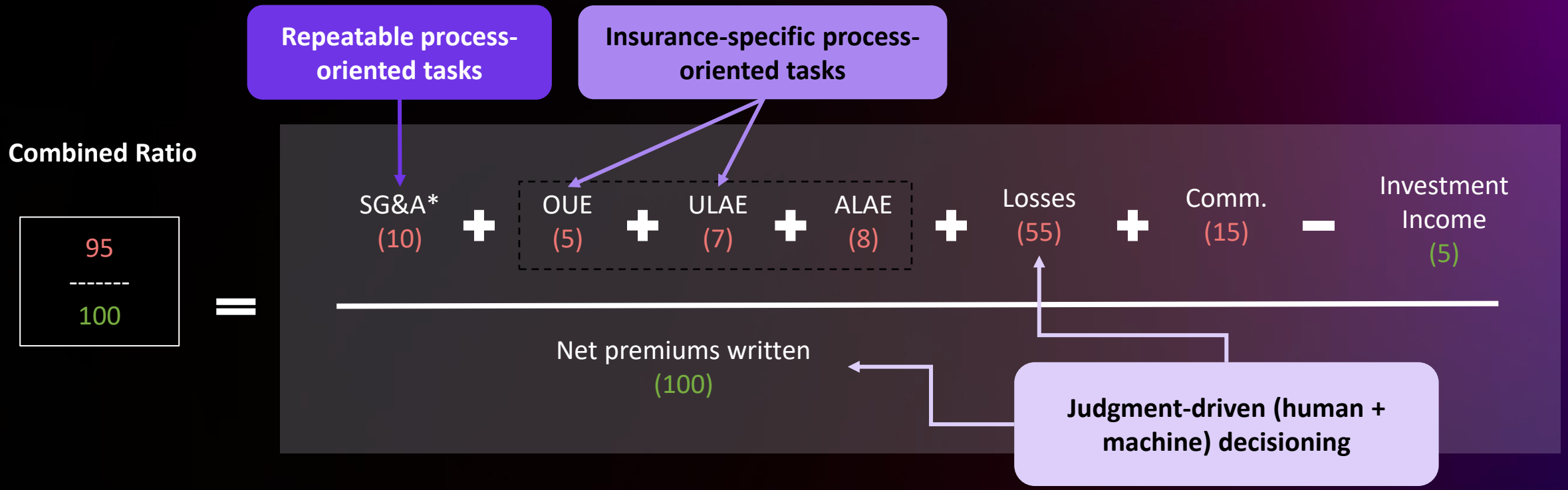
65%

say they plan to invest more than $10M into AI

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Grounding solutions in insurance economics



ALAE: *Allocated Loss Adjustment Expenses*

ULAE: *Unallocated Loss Adjustment Expenses*

OUE: *Other Underwriting Expenses*

Comm.: *Commissions paid to Distribution partners*

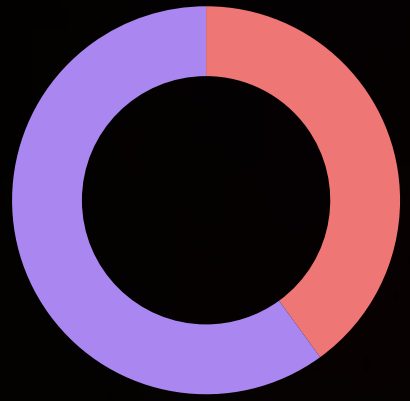
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What is happening in the industry?

Up to 40%

of underwriter's time is spent on **non-core activities**

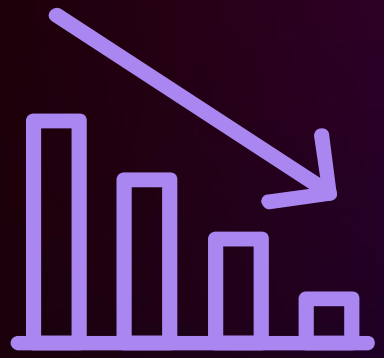


40%
Non-core UW activities

60%
Core UW activities

$160B

in **efficiency loss** over the next 5 years due to underwriters' time wasted



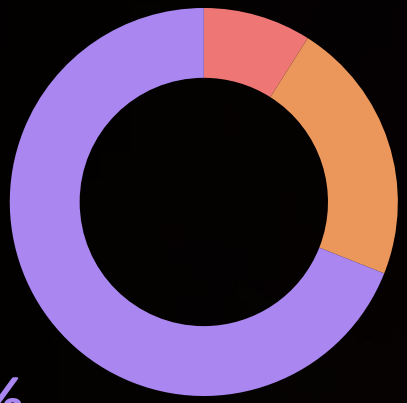
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What is happening in the industry?

1 in 3 claimants

is **not fully satisfied** with how their insurers have handled their claims



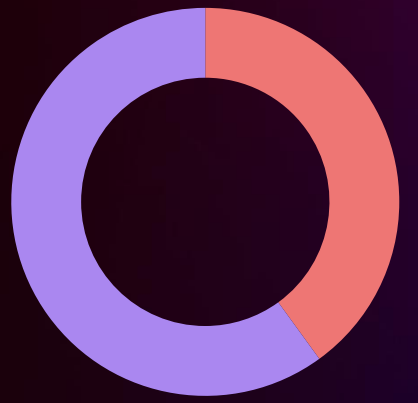
9%
Dissatisfied

22%
Somewhat satisfied

69%
Satisfied

40%

of inbound call volume for claims is comprised of **basic claims status checks**



40%
Basic claims status checks

60%
Core claims work

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Solutioning for challenges in underwriting

Underwriting challenges today



Distribution Disruption



Work Complexity



Data Explosion

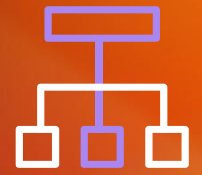


Loss Experience Discontinuities

What we need to solve for



Document Extraction



Prioritization & Triage



Third-Party Data Analytics



Decision Accuracy

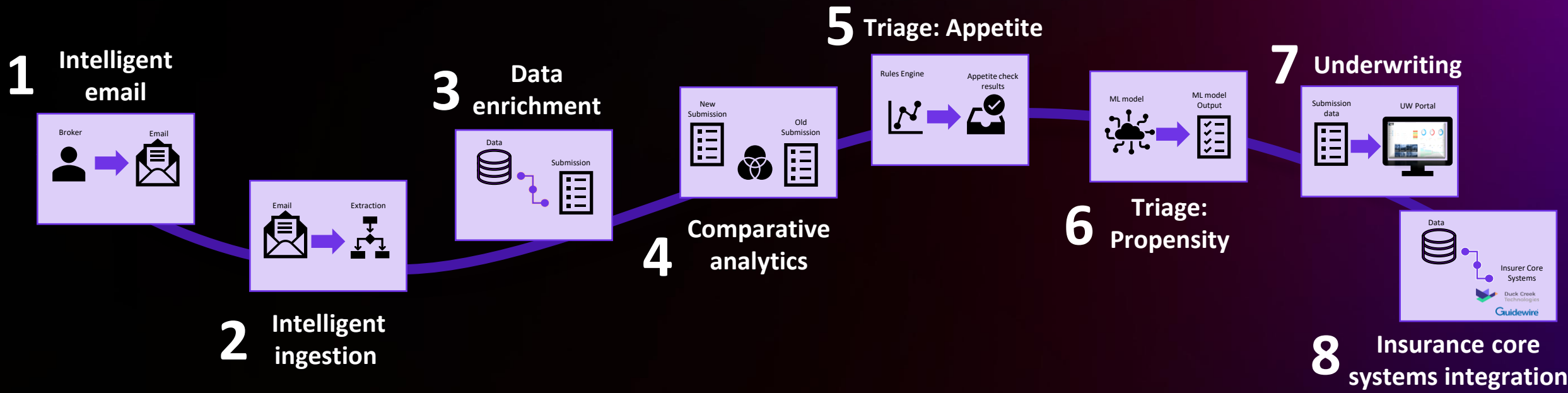
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AI-powered underwriting digital journey

Submission	Extraction	Enrichment	Assessment	UW Portal



Value at Stake

UW Quality Improvement	Speed-to-Quote Reduction	Cycle Time Reduction	Retention Improvement
2-6 loss ratio points	20-40%	20-50%	2-3 points

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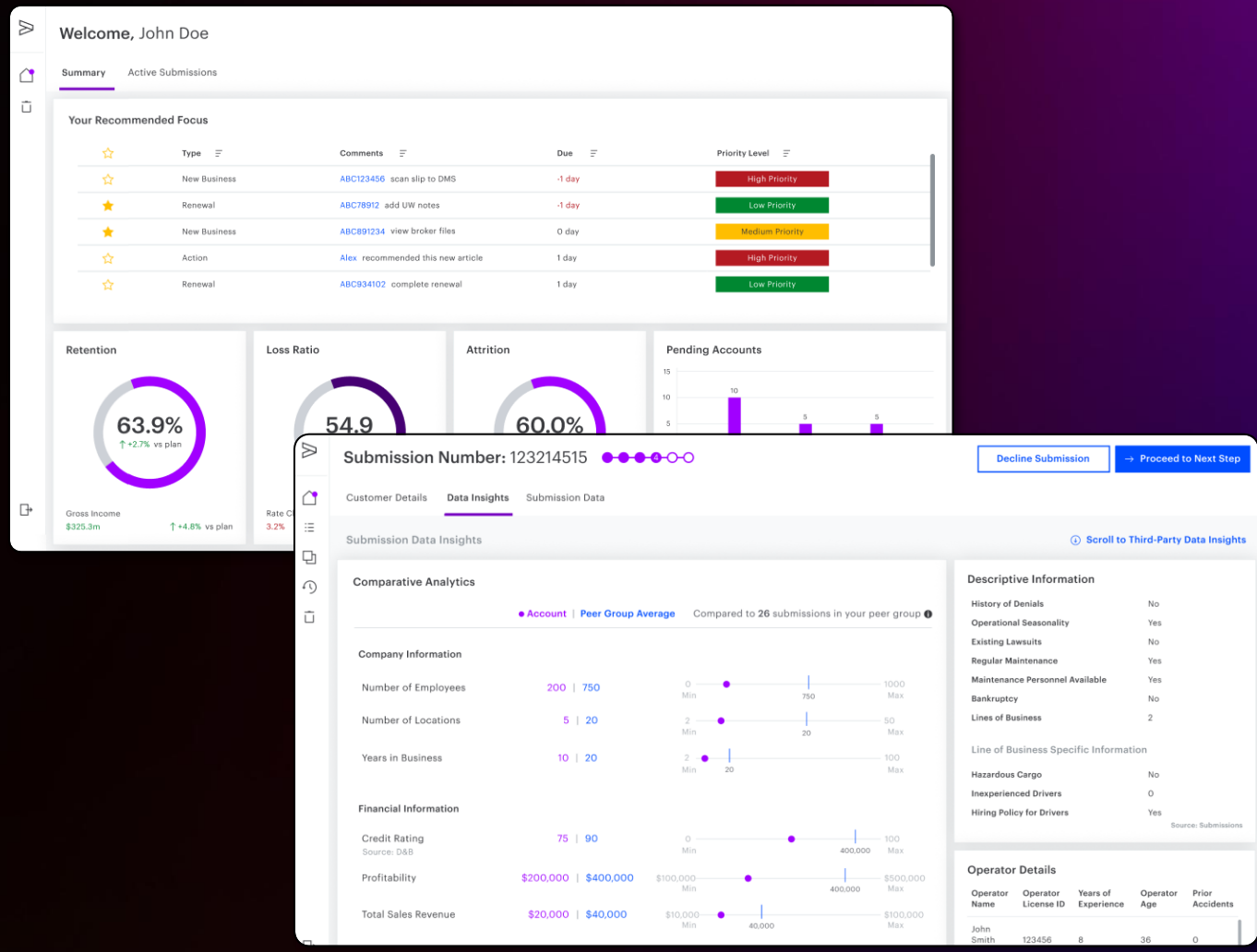
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Enhancing underwriting experience

Key features

- **Connectivity** between UW Portal and data store
- Unique display of **configurable analytics & data modules within the UW Portal** for underwriters to view submission information & related data
- Unique display of **submission information and notifications for shared services** within the UW Portal
- **Business rules for decision selection by UW**
- **Automated emails** to stakeholders (UW, broker, Shared Services, etc.) to notify of UW decisions

Underwriting Portal



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Intelligent Underwriting powered by AWS

Data Capture	Enrichment	Assessment	Integrations

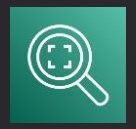
1 Intelligent Email




WorkMail
Ingest email

Amazon Comprehend
Classify document

2 Intelligent Ingestion


Textract, Rekognition
Ingest documents

Augmented AI
Capture changes

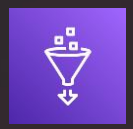
3 Data Enrichment




API Gateway
3PD Connection

Amazon RDS
Structure 1st/3rd party data

4 Comparative Analytics

SageMaker
Peer group analytics

AWS Glue
Data conformity & STM

5 Rules Engine




API Gateway
Initiate rules

Amazon RDS
Store rules

6 Analytical Models



SageMaker
Win propensity, training models, validation

7 Underwriting Portal




CloudFront
Portal website

Command Line Interface
Integrate multiple services

8 Core Systems

Duck Creek
Guidewire
Majesco

Other common features

 Amazon SES
 Amazon SQS
 Amazon RDS
 Amazon S3
 API Gateway
 Data Pipeline
 Lambda

aws

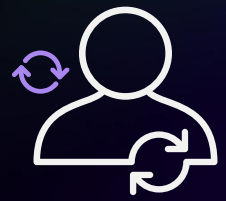
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Solutioning for challenges in claims

Claims challenges today



Indemnity Accuracy



Manual Processes



Fragmented Experience



Claimant Service Expectations

What we need to solve for



Digital Interactions



Automated Decisioning



Segmented Workflows



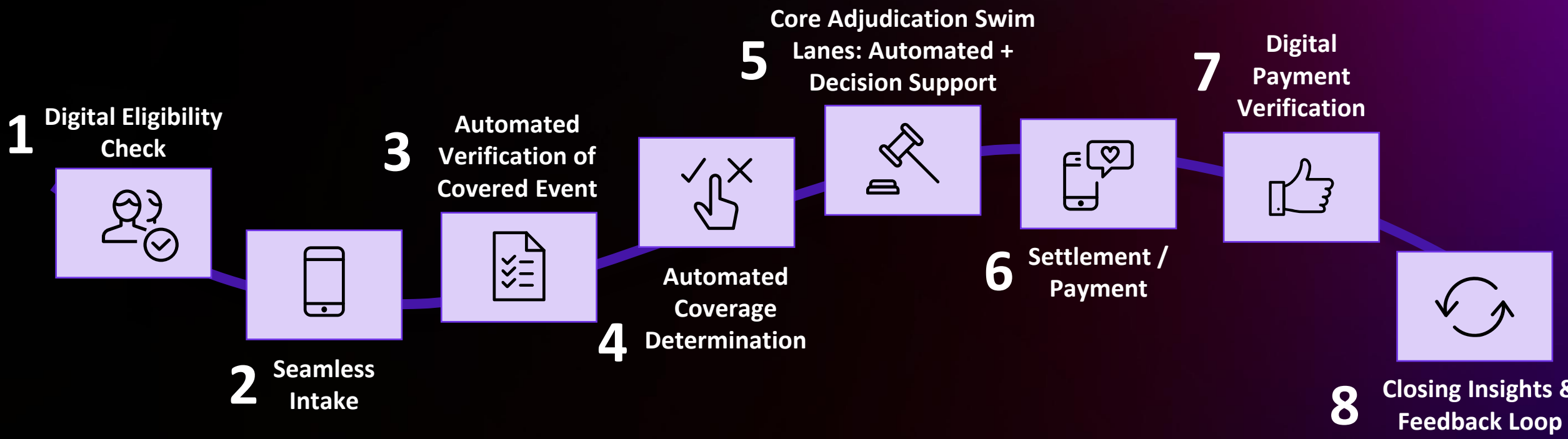
Digital Payments

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AI-powered claims journey

Pre-Claim	FNOL	Claim Setup	Adjudication & Settlement	Support



Value at Stake		
Automated Claims Registration 95%	**Setup Time Reduction** 4 days to 4 minutes	**Automated Adjudication** 32% STP

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Digital claims capabilities powered by AWS

Interactions

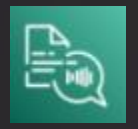
Digital Self Service


Amazon Lex
File claim


Connect
Contact center

Virtual Assist


Amazon Lex
Issue resolution


Amazon Polly
Issue resolution

Human Agent Assist


Amazon Lex
Dynamic coaching


Amazon Polly
Conversation guidance

Proactive Claims Journey Messaging


Amazon Rekognition
Claim document analysis


SageMaker
Identify engagement points

CognitiveAI

Digital FNOL & Document Ingestion


Amazon Textract
Document extract


SageMaker
Automated claim setup

Policy Eligibility Validation


Amazon Textract
Policy extraction


Amazon A2I
Eligibility checks

Automated Payments


Amazon Textract
Digital payments based on extracts


Amazon A2I
Compliance checks

Decisioning

Claims Intake Triage


SageMaker
Claim segmentation


Amazon Textract
Extract inputs

Adjudication using Enriched Data


SageMaker
Rules-based decisioning & decision support

Recovery & Fraud Management


SageMaker
Automated flags for subrogation, salvage, and reinsurance recovery

Other common features


Amazon SES


Lambda


Amazon Comprehend


CloudWatch


Amazon SNS


Amazon S3


QuickSight


Step Functions

aws

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How do we ensure responsible AI?



‘Explainable’ AI

- Unpacking ‘black box’ algorithms
- Logical entailment: factual explanations of decision-making based on algorithmic outcomes
- Deployed as an algorithm to supplement AI



‘Understandable’ AI

- Creating UI/UX to enable the end user to make informed decisions
- Designing a user experience to explain AI model output for non-black box models
- Part of the product design and development process

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Thank you!

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