

Data Modeler

Business meaning that survives
change
Shared models, historical context
and dependable data contracts.



The modelling problem

Different source systems often use the same name for different business concepts.

Ambiguous identity

A customer, policyholder and beneficiary are different roles even when the same person fills them.

Mixed grain

Daily transactions and monthly snapshots cannot be joined safely without an explicit rule.

Lost history

A current address or product definition can overwrite the context of an earlier decision.

The modelling showcase

An insurance customer and policy model demonstrates meaning, structure and change control.

01 Domain

Business vocabulary and ownership

03 Time

Version history and restatements

05 Governance

Sensitive relationships and change

02 Structure

Entities, keys and cardinality

04 Contracts

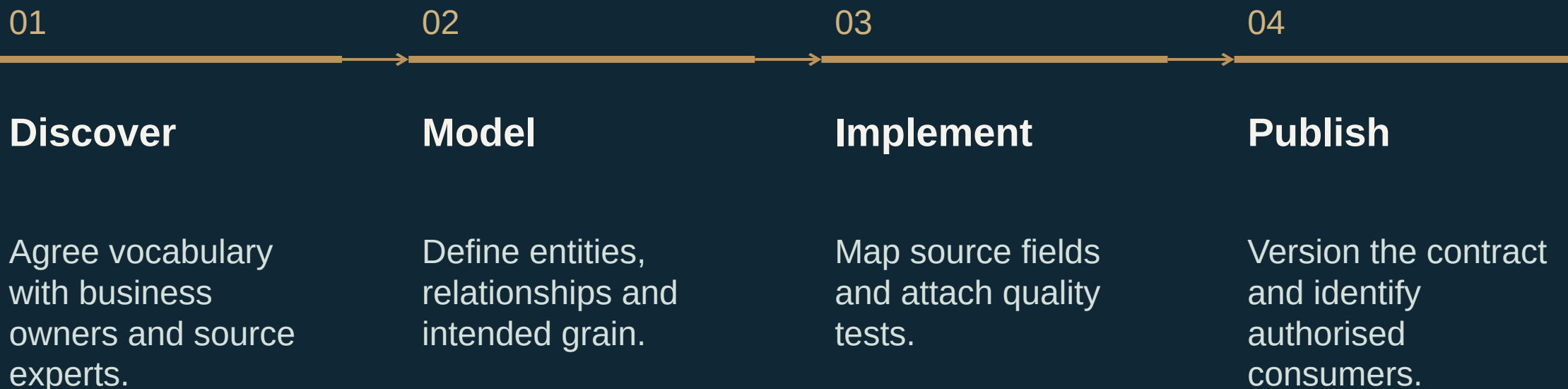
Quality tests and consumers

06 Value

Reusable definitions and delivery

A business model becomes a data contract

GeneCatalog gives definitions, assets and lineage a shared home.



Security: scoped identity, controlled data access and traceable execution at every handoff.

GeneData capabilities and proposed workflows. Deployment scope requires validation.

Customer and policy relationships

Conceptual example. A party can hold multiple roles across policies.



Separate the person, the contract and the events. Restrict access to sensitive relationships.

Keys and cardinality

Physical keys must preserve the meaning of the conceptual model.

Entity	Key and grain	Rule
Party	One identity per recognised party	Retain source crosswalks
Policy	One policy within source namespace	Avoid cross-system key collisions
Policy role	One role assignment per interval	Permit multiple beneficiaries
Policy event	One source event per policy	Prevent duplicate financial events

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Conceptual, logical and physical models

Each model answers a different question without losing the business definition.

Business and logical view

Concepts explain how the business works.

Relationships define permitted cardinalities.

Attributes have owners and clear meaning.

Physical implementation

Keys and types reflect source constraints.

Storage choices fit query and write patterns.

Tests verify the contract after each load.

A conformed customer identity

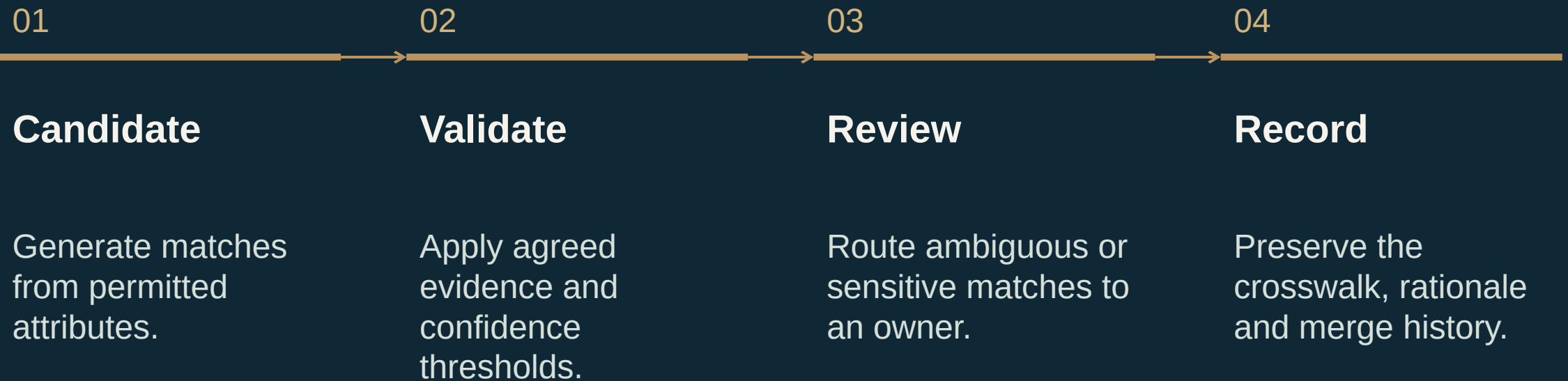
Example mappings preserve source identity without assuming every match is certain.

Source reference	Candidate entity	Resolution
CRM C-118	Party P-900	Verified crosswalk
Policy system A / 52	Party P-900	Approved identity match
Policy system B / 52	Party P-941	Different source namespace
Name-only match	Unresolved	Human review before linking

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Identity resolution with review

A similarity score should not silently merge two people's records.



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Historical context with versioned records

Synthetic example: the address changes while policy identity remains stable.

Version	Validity interval	Known address
P-900 / v1	1 Jan to 30 Jun, exclusive end	Address A
P-900 / v2	30 Jun onward	Address B
Event on 20 Jun	Join to v1	Preserve historical Address A
Current view	Join to latest valid version	Use Address B

Example uses half-open intervals: valid_from inclusive, valid_to exclusive. Dates and records are synthetic.

Business time and knowledge time

A correction may apply to a past date but arrive after a report closes.

Valid time

When the fact applies in the business.

Supports historical policy and customer views.

Answers what applied on a given date.

Recorded time

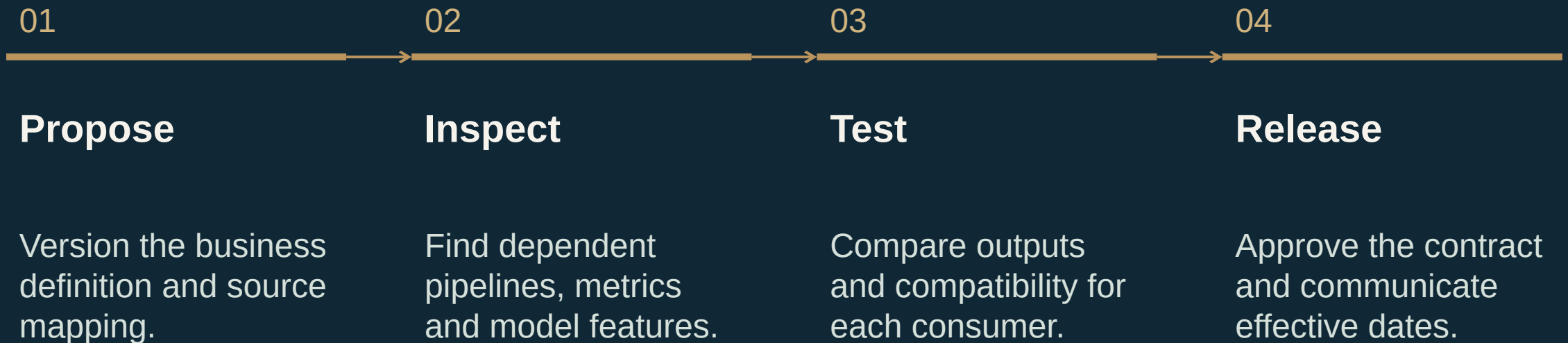
When the organisation learned the fact.

Preserves the evidence available at close.

Supports explanation of later restatements.

A model change with visible impact

Example: a product hierarchy gains a new reporting level.



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Semantic definitions that analysts can trust

The modeler connects physical fields to business measures.

Metric meaning

Define numerator, denominator, population and time basis with the business owner.

Aggregation

State which measures can sum across entities or periods. Avoid summing balances across time.

Version history

Retain definition changes and the reports that used each version.

The model's executable contract

Quality rules make intended relationships testable.

Rule	Test	Failure treatment
Identity	Key uniqueness and non-null IDs	Block affected publication
Relationship	Event refers to a known policy	Quarantine orphan records
History	No overlapping validity intervals	Request steward correction
Classification	Sensitive fields carry required tags	Restrict release pending review
Business meaning	Approved codes and amount signs	Return to the accountable owner

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Security is part of the model

Classification and relationships determine what consumers should be allowed to see.

Sensitive attributes

Identify personal and financial fields at design time. Associate handling and retention rules.

Relationship exposure

A harmless field can reveal sensitive facts when joined. Review purpose and inference risks.

Authorised views

Publish appropriate row and column scopes for each consumer rather than a universal extract.

The model across GeneData

The same business meaning supports engineering, analysis and AI.

Definition and implementation

Business glossary and ownership

Logical relationships and mapping

Versioned schemas and quality rules

Consuming teams

Engineers implement the contract

Analysts use approved measures

Scientists reuse temporal definitions

Lineage connects the business concept to datasets, reports and model inputs

Other complex modelling scenarios

Shared modelling disciplines apply across industries.

Banking entities

Distinguish customer, account, facility and counterparty. Preserve booking entity and currency context.

Retail hierarchy

Version product, assortment and channel relationships without rewriting historical comparisons.

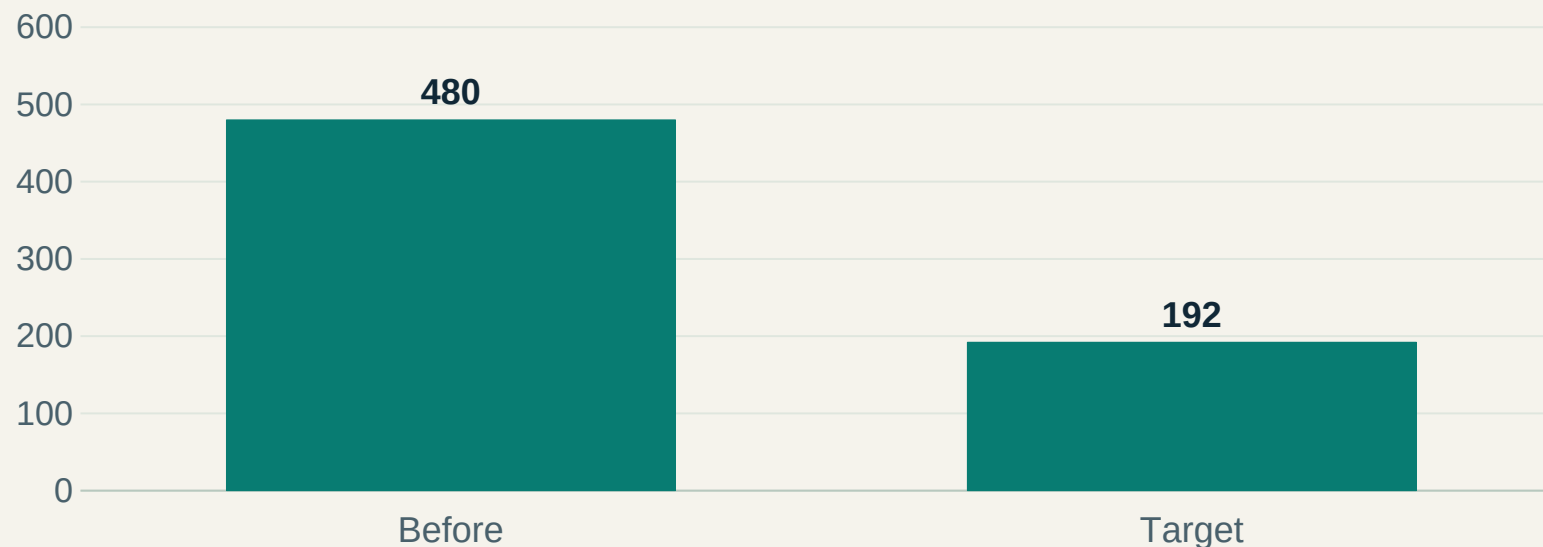
Manufacturing assets

Connect equipment, location and service events. Model changes in asset ownership and configuration.

Less repeated definition work

Illustration: 12 consuming teams spend 10 hours per quarter reconciling definitions.

Annual definition-reconciliation hours



288 hours

Potential capacity

12 teams × 4 quarters ×
(10 – 4) hours. Measure
actual rework before
rollout.

Acceptance tests for a reusable model

A model is complete when consuming teams can use and challenge it.

Test	Evidence	Acceptance owner
Historical reconstruction	Known past report reproduces	Finance or business owner
Join safety	No unintended row expansion	Analyst and Engineer
Change impact	Affected consumers identified	Data product owner
Privacy boundary	Unauthorised joins or fields denied	Security owner
Version clarity	Definitions and dates discoverable	Data steward

GeneData capabilities and proposed workflows. Deployment scope requires validation.

A measurable first delivery

Genellipse scopes an MVP within six weeks around one agreed workflow and its acceptance tests.

Stage	Working output	Acceptance evidence
Weeks 1–2	Business glossary and conceptual model	Source access and baseline agreed
Weeks 3–4	Source mapping and executable contracts	Exception and security tests pass
Weeks 5–6	Versioned model with consumer acceptance	History and join tests accepted
Expansion	Add sources and consuming teams	Review value and operating capacity

GeneData capabilities and proposed workflows. Deployment scope requires validation.

Security evidence before scale

GeneData's Trust Center makes workload-specific review part of adoption.

Identity and data

Validate SSO, role boundaries, row and column controls, encryption and secret ownership against the chosen deployment.

AI and operations

Agree permitted models, data sent to providers, human approvals, recovery tests and retention responsibilities.

Assurance status

SOC 2 controls are mapped, without an attestation. ISO 27001 certification is not held. Request current control evidence.

Product references and example scope

Detailed workflows show implementation designs. Numerical examples use synthetic assumptions.

Platform capabilities	data.genellipse.ai/product/overview
Role-specific material	data.genellipse.ai/product/data-management
Integration readiness	data.genellipse.ai/integrations
Controls and assurance	data.genellipse.ai/trust

Your next data workflow

Bring the business question, the source systems and the people accountable for the result. Genellipse will help define the architecture, implement the workflow and measure the outcome.

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