

Whitepaper: Automated Policy Issuance Framework - w12

Singularity IO Sovereign Agentic AI Platform Zurich, Switzerland | www.singularityio.ch

AUTOMATED POLICY ISSUANCE FRAMEWORK

Agentic Policy Issuance and Document Verification Workflow
Whitepaper for Insurance & Reinsurance
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Executive Summary

Manual policy issuance and document verification processes in insurance are slow, error-prone, and increasingly unsustainable under growing regulatory scrutiny.

The **Automated Policy Issuance Framework** is a sovereign **Standard Agent** that intelligently handles end-to-end policy creation, document verification, risk data validation, and compliance checks — delivering faster issuance, higher accuracy, and full EU AI Act adherence.

Hosted on the **Singularity Agentic Platform** in Swiss data centers, this agent transforms a traditionally labor-intensive workflow into a reliable, auditable, autonomous process.

Key Outcomes

- 50–70% faster policy issuance cycles
 - 60–85% reduction in manual document verification effort
 - Significant error reduction and improved data accuracy
 - Built-in EU AI Act and DSG/GDPR compliance
 - Strong ROI with payback typically in 4–8 months
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1. The Challenge: Inefficient and Risky Policy Issuance

Insurance carriers and reinsurers face mounting pressure from:

- High volume of applications requiring manual review of complex documents (contracts, medical records, property valuations, etc.)
- Inconsistent data quality and verification across channels
- Lengthy underwriting handoffs and approval bottlenecks
- Rising regulatory demands for transparency, auditability, and non-discrimination under the EU AI Act
- Increasing operational costs and talent shortages in back-office functions

These issues result in delayed policy issuance, higher abandonment rates, increased operational expenses, and elevated compliance risk.

2. The Solution: Autonomous Agentic Policy Issuance Agent

The Singularity **Policy Issuance Agent** is a stateful, multi-tool **Standard Agent** that orchestrates the entire workflow from application intake to policy issuance — with embedded document intelligence and compliance guardrails.

It acts as a digital underwriting assistant that works 24/7 inside your dedicated Swiss tenant.

Core Capabilities

- Intelligent document ingestion and verification (PDFs, scans, forms)
- Automated data extraction and cross-validation against internal systems and external sources
- Risk profiling and preliminary underwriting recommendations
- Policy generation and customization using approved templates
- Human-in-the-loop escalation for complex or high-value cases
- Full audit trail for every decision and document interaction

3. How the Agent Works (Technical Blueprint)

Standard Agent Architecture on Singularity Platform

1. Ingestion Layer (n8n + Qdrant)

- Secure document upload and multi-format processing.
- Vector store for semantic search across historical policies and regulations.

1. Reasoning & Verification Layer (LangGraph + Dify)

- Multi-step workflow: Extract → Verify → Enrich → Assess Risk → Generate.
- Parallel sub-agents for document authenticity, data consistency, and regulatory alignment.

1. Generation & Compliance Layer (Ollama + OpenClaw)

- Produces compliant policy documents with embedded clauses.
- Real-time checks against EU AI Act requirements and internal rulebooks.

1. Governance Layer (LangSmith)

- Complete traceability and explainability for every automated decision.

Deployment Tier: Standard (recommended for most insurance use cases) — includes dedicated GPU slice and 12 agents.

4. Key Workflow Stages Automated

	Stage	Agent Action	Benefit
1	Application Intake	Auto-classify and route documents	Zero manual triage
2	Document Verification	Extract + cross-check data points	60–85% less manual review
3	Risk & Compliance Check	Run sovereign LLM analysis + rule engine	Consistent, auditable decisions
4	Policy Drafting	Generate tailored policy with clauses	Minutes instead of days
5	Final Approval & Issuance	Prepare package + escalation if needed	Accelerated time-to-bind

5. Business and Operational Outcomes

Typical Results

- Policy issuance time reduced from days to hours
- Underwriting team productivity gains of 40–66%
- Error rates in policy documents reduced by 70–90%
- Improved customer experience through faster binding
- Strong compliance posture with built-in EU AI Act safeguards
- Operational cost savings of 30–55% in policy administration

ROI Example (mid-sized insurer):

- Monthly Standard Tenant: CHF 2,990
- Projected annual benefit: CHF 450k–1.2M → **ROI 171–192%**

6. Why Deploy on the Singularity Agentic Platform

- **100% Swiss Sovereign:** All processing on Exoscale SKS in Swiss data centers
- **Dedicated Tenant:** Guaranteed resources, namespace isolation, and your own LangSmith instance
- **Flexible Development:** Start fast with Dify (low-code), scale with LangGraph
- **Compliance by Design:** Purpose-built for regulated insurance processes
- **No Vendor Lock-in:** Open-source-first stack (Ollama, LangGraph, n8n, Qdrant)

Standard Tier

- CHF 2,990 monthly base fee
- 12 Standard agents included
- Extra agents at CHF 299/month

7. Implementation Roadmap (4–8 Weeks)

- **Phase 1 (1–2 weeks):** Integration with core systems + document processing setup (Dify)
- **Phase 2 (2–4 weeks):** LangGraph workflow orchestration and verification logic
- **Phase 3 (2 weeks):** Pilot with live policies, tuning, and human oversight
- **Phase 4:** Full production rollout with continuous improvement

Singularity IO offers professional services for end-to-end agent development and deployment.

8. Compliance & Security Framework

- Full DSG/GDPR + EU AI Act compliance (including high-risk considerations)
 - Transparent, explainable decisions with human oversight options
 - Kyverno policies, RBAC, NetworkPolicy, and comprehensive audit logging
 - All data and inference remain in Switzerland
 - Ready for regulatory audits and internal governance reviews
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Conclusion

The **Automated Policy Issuance Framework** enables insurance and reinsurance companies to issue policies faster, more accurately, and with stronger compliance — turning a costly bottleneck into a competitive advantage.

Powered by sovereign agentic AI on the Singularity Platform, it delivers measurable efficiency gains while maintaining the trust and regulatory standards that Swiss and European insurers demand.

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