A Product Requirements Document (PRD) has been created for an AI Liability Insurance product, designed to integrate with your existing PHP Laravel stack and TIA core insurance system via a SOAP API.

## Product Requirements Document: AI Liability Insurance

### 1. Introduction

This document outlines the product requirements for "AI Liability Insurance," a new short-term insurance product designed for companies developing or utilizing artificial intelligence. This product will be integrated into the existing insurance management ecosystem, utilizing the current PHP Laravel infrastructure, Oracle TIA database, and SOAP API for core policy and client management.

### 2. Problem Statement

Companies developing and deploying AI solutions face a new class of risks not adequately covered by traditional liability or cyber insurance policies. Potential financial loss from algorithmic errors, AI-induced discrimination, or unexpected model behavior creates a significant coverage gap. Our customers require a specialized insurance product to mitigate the unique liabilities associated with artificial intelligence.

### 3. Goals and Objectives

| Objective | Key Result |
| --- | --- |
| **Launch a new, competitive AI insurance product** | Achieve first-year Gross Written Premium (GWP) of ZAR 20 million. |
| **Integrate seamlessly with the existing TIA system** | Configure and launch the new product with zero disruption to existing policy administration or claims processing workflows. |
| **Provide a clear and efficient user experience** | Enable brokers and internal staff to quote, bind, and manage AI Liability policies through the existing Laravel portal. |
| **Ensure robust data handling and security** | All policy and claims data for the new product must be securely stored and managed within the Oracle TIA database. |

### 4. User Personas

- **Brenda, the Broker:** Needs to quickly generate quotes, explain coverage details, and bind policies for her tech clients through the existing broker portal. The process should be as familiar as issuing a standard professional indemnity policy.
- **David, the Developer:** A software engineer on the internal team tasked with adding the new product. He needs clear documentation for the SOAP API endpoints and a logical product structure within the TIA database to build the front-end experience.
- **Thandi, the Underwriter:** Needs to access and evaluate AI-specific risk information submitted through the portal to make informed underwriting decisions and set appropriate premiums and excesses.

**5. Product Features & Requirements**

**5.1. Core Insurance Product**

This product is designed as a specialized professional indemnity insurance for AI-related risks.

- **Coverage:**
  - **Algorithmic Error Liability:** Covers financial losses to a third party resulting from a demonstrable error in the insured's AI model. 1
  - **Negligence & Misrepresentation:** Covers defense costs and settlements arising from claims that the AI product failed to perform as advertised, leading to financial loss. 1
  - **Data Bias Liability:** Covers legal costs associated with claims of discrimination stemming from biased AI algorithms.

- **Exclusions:**
  - Standard cyber-attack-related breaches (covered under Cyber policies).
  - Intentional malicious use of AI by the insured.
  - Intellectual property infringement.

**5.2. Integration with TIA Core System**

The "AI Liability Insurance" product must be configured within the TIA system's **Product Definition** module. 2 This involves:

- **Product Configuration:**
  - Creating a new product line with unique risk codes, policy wording, and tariff structures.
  - Defining the subject of insurance, specifying details of the AI model/application to be covered.

- **Policy & Claims Modules:**

- The existing TIA `Core Policy` and `Core Claims` modules will be used to manage the entire lifecycle. 3
- No structural changes to the Oracle database are anticipated; this will be a new configuration within the existing TIA schema.

### 5.3. Laravel Broker Portal Integration

The existing PHP Laravel portal will be extended to support the new product.

| Feature | Requirement | Technical Implementation Detail |
|---|---|---|
| **Quoting** | Brokers must be able to generate a quote by providing AI-specific risk details (e.g., model type, training data, application). | The Laravel application will call a **new SOAP API endpoint** ( `generateAIQuote` ) that passes risk data to the TIA system for premium calculation. |
| **Binding** | Allow brokers to bind policies from a generated quote. | The Laravel application will use an existing ( `bindPolicy` ) or new ( `bindAIPolicy` ) SOAP endpoint, creating a new policy record in the TIA database. |
| **Endorsements** | Brokers must be able to process endorsements (e.g., changes to AI model usage). | Utilize existing SOAP endpoints for policy adjustments, passing the new AI-specific data fields. |
| **First Notification of Loss (FNOL)** | Enable brokers to submit a claim notification for an AI-related incident. | The Laravel application will call a **new SOAP API endpoint** ( `submitAIClaimFNOL` ) to create an initial claim record in the TIA `Core Claims` module. |
| **Document Management** | All policy schedules, wording, and endorsements must be generated and stored as PDFs. | Leverage the existing document generation and storage solution connected to the TIA system. |

### 5.4. SOAP API Requirements

The existing SOAP API service will be extended to support the new product. The following new endpoints (or extensions of existing ones) are required:

- `generateAIQuote(risk_data)` : Accepts structured XML data containing AI risk factors and returns a calculated premium, excess, and terms.

- `submitAIClaimFNOL(policy_id, claim_details)`: Accepts initial claim information and creates a claim record in the TIA system.

The Web Services Description Language (WSDL) for the API must be updated to include these new operations and data types.

**6. Non-Functional Requirements**

- **Performance:** Quote generation via the SOAP API should not exceed the current average response time for existing products.
- **Security:** All communication between the Laravel application and the SOAP API must continue to use transport layer security (TLS 1.2+).
- **Scalability:** The solution must be capable of handling an initial estimate of 1,000 policies in the first year without performance degradation.

**7. Assumptions & Dependencies**

- The current TIA system has the "Product Definition" module enabled and available for configuration. 2
- The team has access to TIA consultants or internal experts to configure the new product correctly.
- The existing SOAP API is well-documented and can be extended without major architectural changes.

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***Disclaimer:*** *This document provides product and technical requirements based on the information provided. I am not a licensed financial or insurance professional. All product details, especially coverage, exclusions, and pricing, must be reviewed and approved by qualified underwriters, legal counsel, and regulatory experts.*

## Citations


eqtgroup.com [1]

www.sygnity.pl [2]

sapiens.com [3]