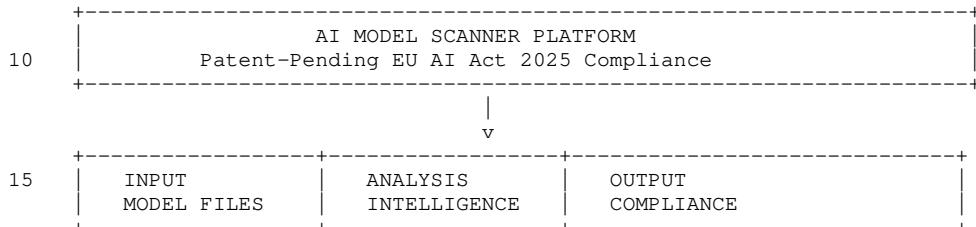


5 FIGURE 1: SYSTEM ARCHITECTURE OVERVIEW



20 FIGURE 2: MULTI-FRAMEWORK ANALYZER

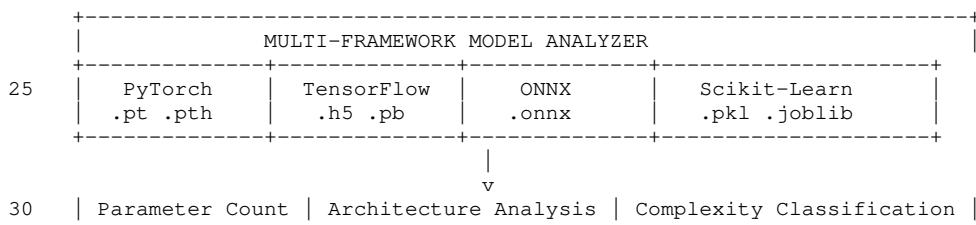


FIGURE 3: BIAS DETECTION ENGINE

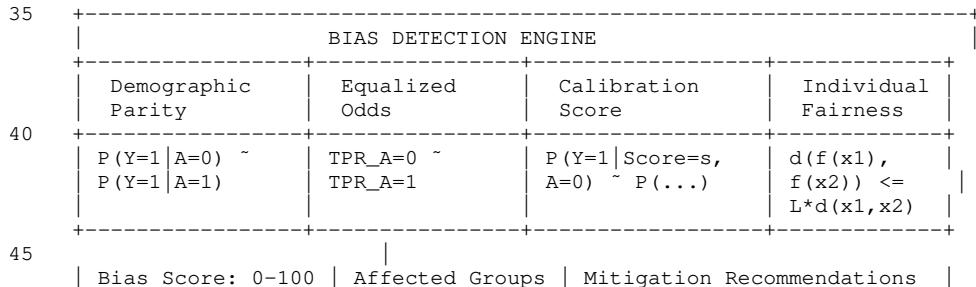


FIGURE 4: EU AI ACT COMPLIANCE ASSESSOR



ARTICLE 5 Prohibited Practices	ARTICLES 19-24 High-Risk Systems	ARTICLES 51-55 General Purpose AI (GPAI)
- Social Score - Manipulation - Subliminal - Biometric ID	- QMS Required - Tech Docs - Record Keeping - CE Marking	- Foundation Model - >1B Parameters - Compute Limits - Adversarial Test
EUR 35M or 7% Global Turnover	EUR 15M or 3% Global Turnover	EUR 15M or 3% Global Turnover

FIGURE 5: NETHERLANDS SPECIALIZATION

NETHERLANDS SPECIALIZATION		
BSN Detection	UAVG Compliance	Penalty Engine
- 9-digit BSN - Checksum Valid - Privacy Risk - GDPR Art.9	- AP Authority - Data Residency - Local Rules - NL Specific	- EUR 35M Max - 7% Turnover - Risk Scaling - Regional Multi

```

80 +-----+-----+
85 FIGURE 6: MATHEMATICAL FORMULAS (CORRECTED)
85 BIAS DETECTION ALGORITHMS:
90 Formula 1 - Demographic Parity:
90 P(Y=1|A=0) ~ P(Y=1|A=1)

90 Formula 2 - Equalized Odds:
90 TPR_A=0 ~ TPR_A=1 AND FPR_A=0 ~ FPR_A=1

95 Formula 3 - Calibration Score:
95 P(Y=1|Score=s,A=0) ~ P(Y=1|Score=s,A=1)

95 Formula 4 - Individual Fairness:
95 d(f(x1),f(x2)) <= L*d(x1,x2)

100 BSN CHECKSUM VALIDATION (CORRECTED - Official Dutch Algorithm):
100 checksum = (digit_0 x 9) + (digit_1 x 8) + (digit_2 x 7) +
100 (digit_3 x 6) + (digit_4 x 5) + (digit_5 x 4) +
100 (digit_6 x 3) + (digit_7 x 2) - (digit_8 x 1)

```

===== PAGE 3 of 6 =====

```

105 BSN is valid if: checksum mod 11 == 0

Example: BSN 111222333
= (1x9) + (1x8) + (1x7) + (2x6) + (2x5) + (2x4) + (3x3) + (3x2) - (3x1)
= 9 + 8 + 7 + 12 + 10 + 8 + 9 + 6 - 3
110 = 66 mod 11 = 0 ? VALID

PENALTY CALCULATION:

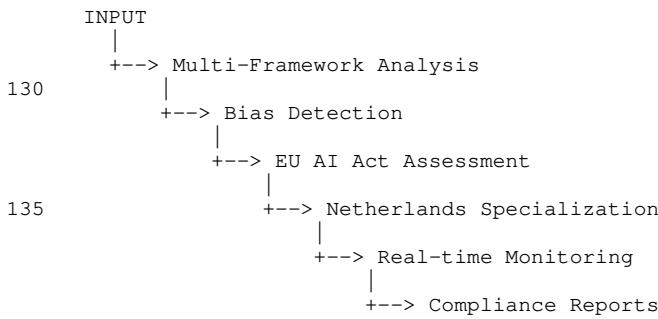
115 penalty = MAX(
115     fixed_amount x regional_multiplier,
115     revenue x percentage x regional_multiplier
115 )
120 where:
120     fixed_amount = EUR 35,000,000 (Article 5) or EUR 15,000,000 (Articles 19-24)
120     percentage = 7% (Article 5) or 3% (Articles 19-24)
120     regional_multiplier = Netherlands-specific compliance factor

```

```

125 FIGURE 7: SYSTEM FLOW DIAGRAM

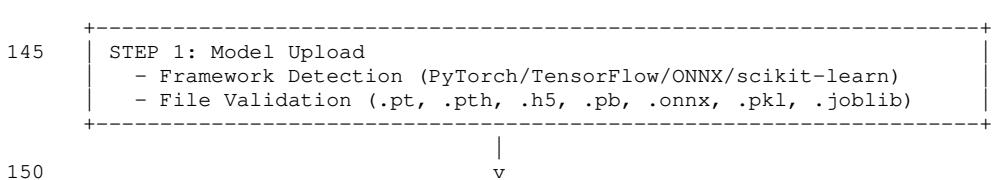
```



```

140 FIGURE 8: PROCESSING PIPELINE

```



===== PAGE 4 of 6 =====



```

155 |     - Parameter Count (threshold: <1M, 1M-100M, 100M-1B, >1B)
156 |     - Layer Configuration
157 |     - Model Complexity Classification
158 |
159 |     v
160 +-----+
160 | STEP 3: Bias Detection
161 |     - Demographic Parity (threshold: 0.80)
162 |     - Equalized Odds (TPR & FPR comparison)
163 |     - Calibration Score (per demographic group)
164 |     - Individual Fairness (Lipschitz continuity, L=1.0)
165 |
166 +-----+
167 |     v
170 +-----+
170 | STEP 4: EU AI Act Classification
171 |     - Article 5 Check (Prohibited Practices)
172 |     - Articles 19-24 Validation (High-Risk Systems)
173 |     - Articles 51-55 Assessment (GPAI Models)
174 |     - Penalty Calculation (EUR 35M / EUR 15M)
175 |
176 +-----+
177 |     v
180 +-----+
180 | STEP 5: Netherlands Compliance
181 |     - BSN Detection (9-digit pattern + checksum)
182 |     - UAVG Validation (AP authority integration)
183 |     - Regional Penalty Multipliers
184 |     - Dutch Language Support
185 |
186 +-----+
187 |     v
190 +-----+
190 | STEP 6: Report Generation
191 |     - PDF/HTML Output
192 |     - Technical Documentation
193 |     - Remediation Recommendations
194 |     - Compliance Certificate (with AP stamp)
195

```

FIGURE 9: DEPLOYMENT ARCHITECTURE

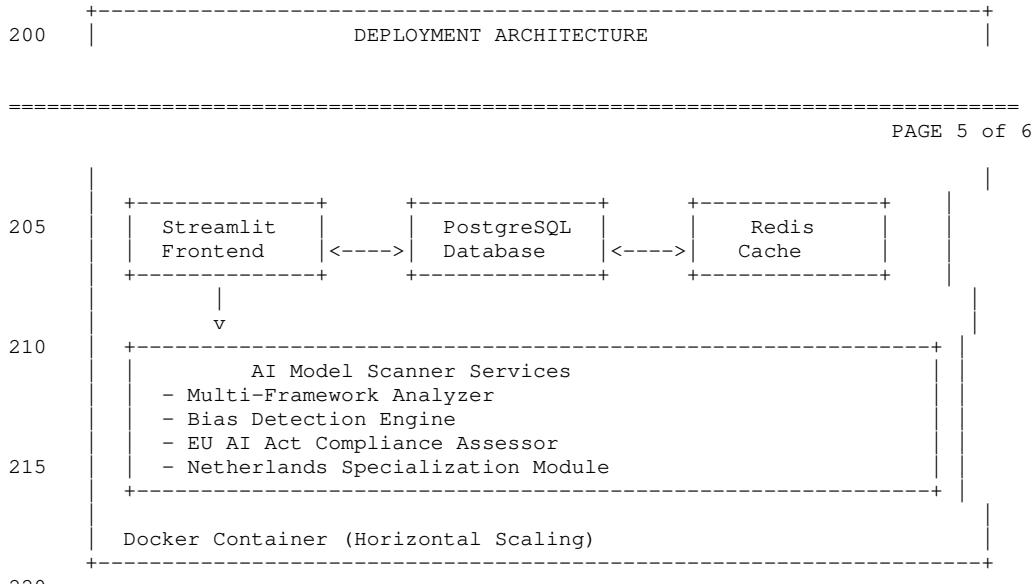


FIGURE 10: COMPETITIVE ADVANTAGE MATRIX

FEATURE	DataGuardian	System A	System B	System C
Automated Bias	?	x	x	!
Multi-Framework	?	x	x	!
BSN Detection	?	x	x	x
EU AI Act 2025	?	!	!	!
Cost (Annual)	EUR2.5K-25K	EUR50K-500K	EUR75K-400K	EUR100K+
Cost Savings	BASELINE	95%	96%	97%

235 Legend: ? = Full Support, ! = Partial Support, x = No Support

FIGURE 11: VALUE PROPOSITION

PATENT VALUE PROPOSITION	
Market Opportunity:	EUR447M (EU-wide AI compliance market)
Target Market:	1.8M EU companies using AI
Netherlands Market:	EUR23M (150,000 companies)
Penalty Prevention:	Up to EUR 35M per violation
Cost Savings:	95% vs System A/System B
Processing Speed:	<30s (vs hours manually)

PAGE 6 of 6

Accuracy:	95%+ bias, 98%+ compliance
First-Mover Advantage:	EU AI Act enforced Feb 2025
Patent Protection:	20 years (until 2045)
Patent Value:	EUR1M - EUR2.5M

=====

IMPORTANT TECHNICAL CORRECTIONS

=====

265 BSN FORMULA CORRECTION:

OLD (INCORRECT):
checksum = SUM(digit_i x (9-i)) mod 11 x WRONG

270 NEW (CORRECT):
checksum = (digit_0 x 9) + (digit_1 x 8) + ... - (digit_8 x 1) ? CORRECT

275 The last digit (digit_8) uses multiplication factor 1 with subtraction,
not derived from the general formula pattern. This is the official Dutch
government BSN 11-proof algorithm specification.

=====

END OF DRAWINGS AND FORMULAS

=====