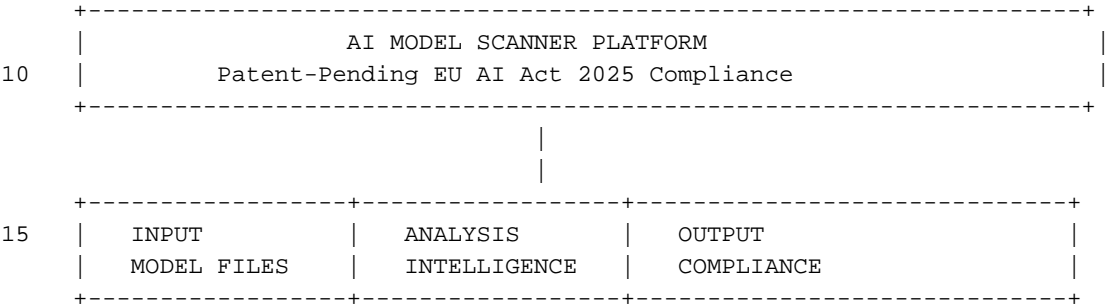
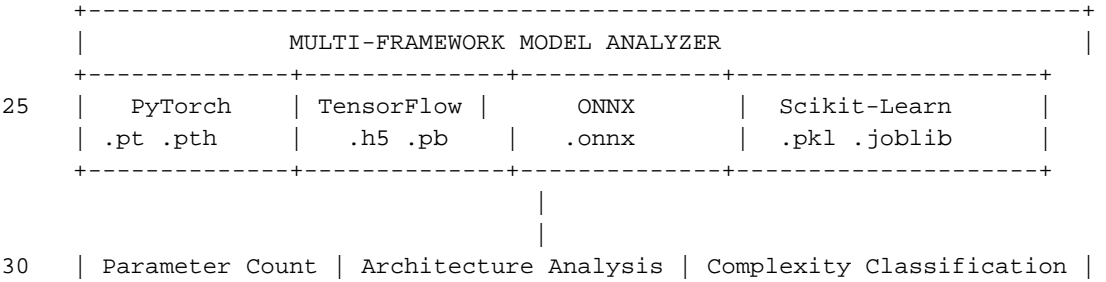


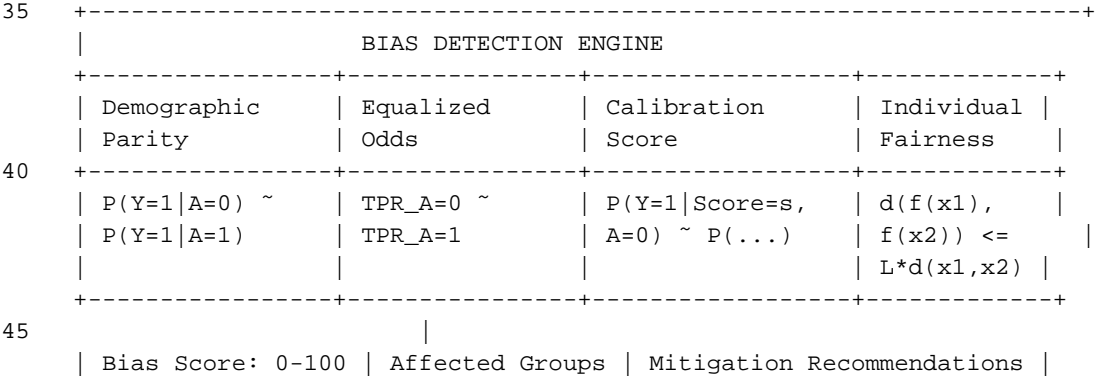
5 FIGUUR 1: SYSTEEM ARCHITECTUUR OVERZICHT



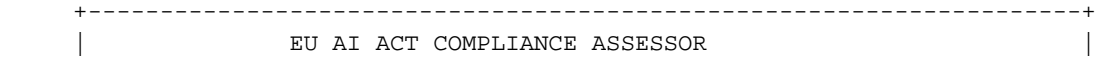
20 FIGUUR 2: MULTI-FRAMEWORK ANALYZER



FIGUUR 3: BIAS DETECTION ENGINE



FIGUUR 4: EU AI ACT COMPLIANCE ASSESSOR



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

FIGUUR 5: NEDERLANDS SPECIALISATIE

70	NETHERLANDS SPECIALIZATION			
	BSN Detection	UAVG Compliance	Penalty Engine	
75	- 9-digit BSN	- AP Authority	- EUR 35M Max	
	- Checksum Valid	- Data Residency	- 7% Turnover	
	- Privacy Risk	- Local Rules	- Risk Scaling	
	- GDPR Art.9	- NL Specific	- Regional Multi	
80				

FIGUUR 6: MATHEMATISCHE FORMULES (GECORRIGEERD)

BIAS DETECTION ALGORITHMS:

Formule 1 - Demographic Parity:

$$P(Y=1|A=0) \sim P(Y=1|A=1)$$

Formule 2 - Equalized Odds:

$$TPR_{A=0} \sim TPR_{A=1} \text{ EN } FPR_{A=0} \sim FPR_{A=1}$$

Formule 3 - Calibration Score:

$$P(Y=1|Score=s,A=0) \sim P(Y=1|Score=s,A=1)$$

Formule 4 - Individual Fairness:

$$d(f(x_1),f(x_2)) \leq L \cdot d(x_1,x_2)$$

BSN CHECKSUM VALIDATIE (GECORRIGEERD - Officieel Nederlands Algoritme):

```
checksum = (digit_0 x 9) + (digit_1 x 8) + (digit_2 x 7) +
            (digit_3 x 6) + (digit_4 x 5) + (digit_5 x 4) +
            (digit_6 x 3) + (digit_7 x 2) - (digit_8 x 1)
```

BSN is geldig als: checksum mod 11 == 0

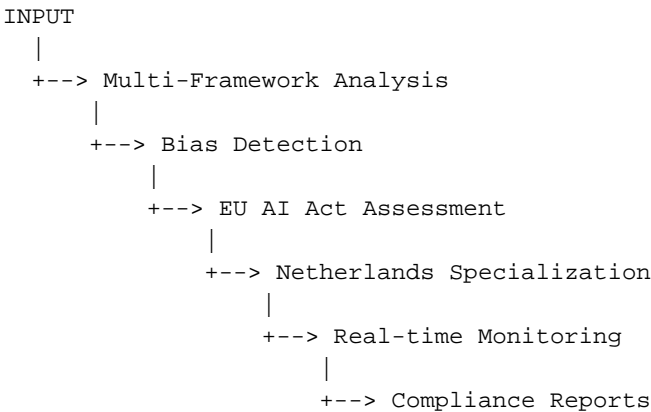
Voorbeeld: BSN 111222333
= (1x9) + (1x8) + (1x7) + (2x6) + (2x5) + (2x4) + (3x3) + (3x2) - (3x1)
= 9 + 8 + 7 + 12 + 10 + 8 + 9 + 6 - 3
110 = 66 mod 11 = 0 ✓ GELDIG

PENALTY CALCULATION:

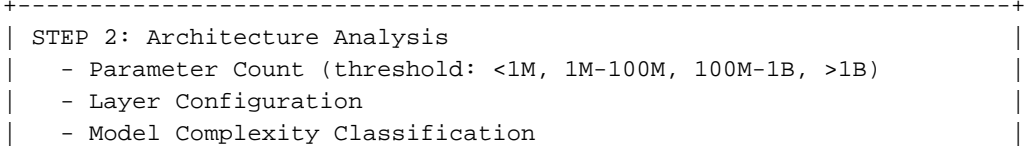
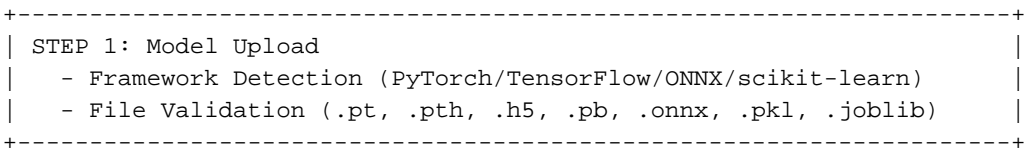
115 penalty = MAX(
fixed_amount x regional_multiplier,
revenue x percentage x regional_multiplier
)

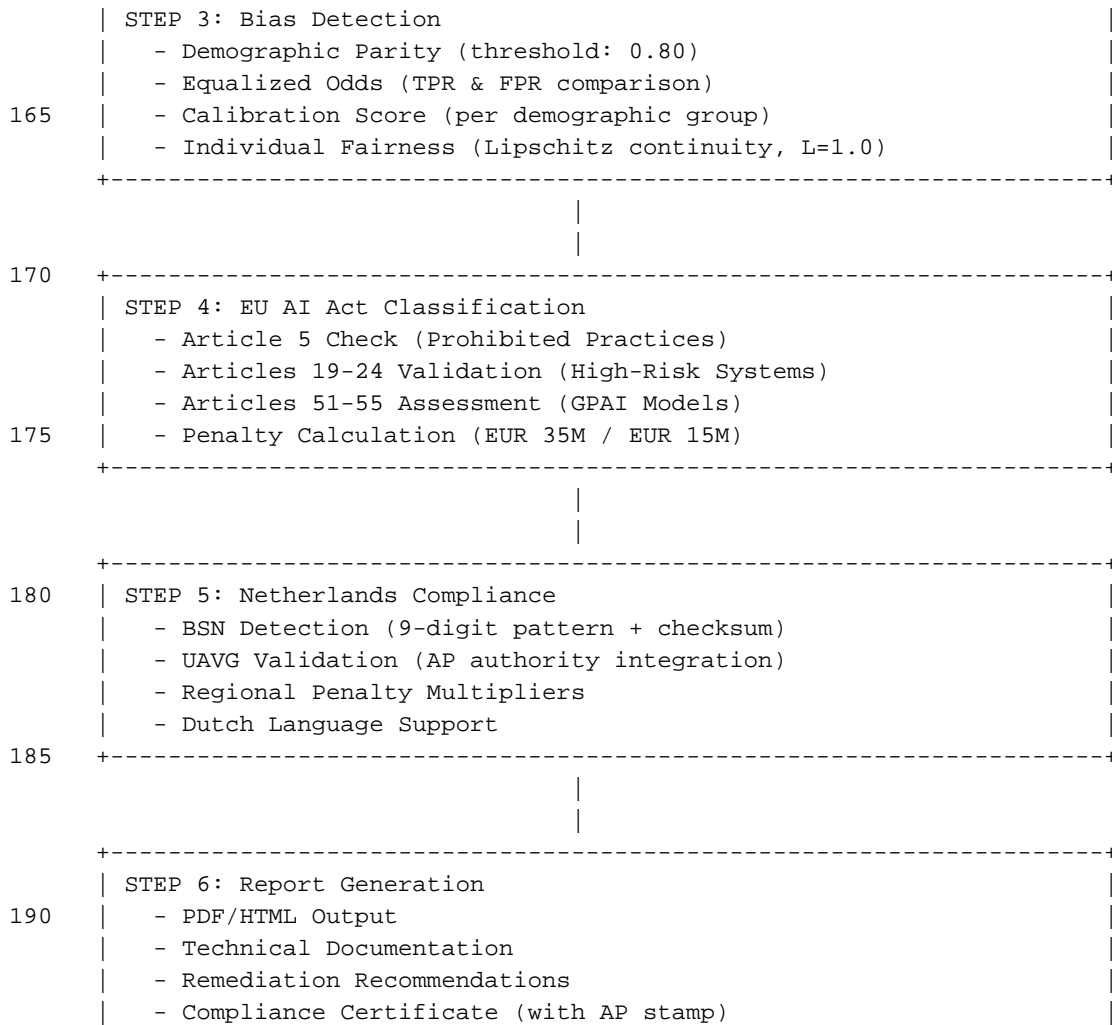
120 waarbij:
fixed_amount = EUR 35,000,000 (Artikel 5) of EUR 15,000,000 (Artikelen 19-24)
percentage = 7% (Artikel 5) of 3% (Artikelen 19-24)
regional_multiplier = Nederland-specifieke compliance factor

125
FIGUUR 7: SYSTEEM FLOW DIAGRAM

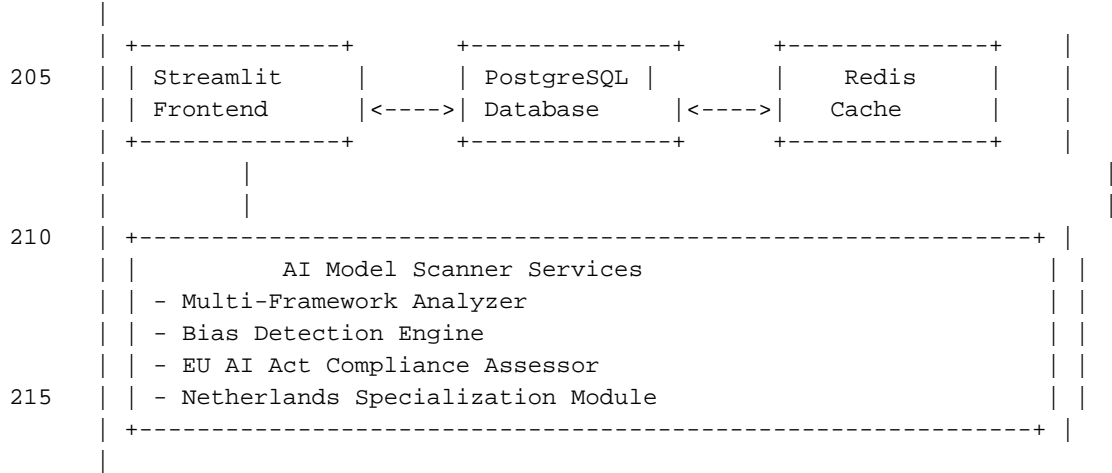
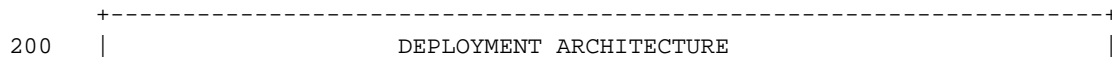


140
FIGUUR 8: PROCESSING PIPELINE





FIGUUR 9: DEPLOYMENT ARCHITECTUUR



| Docker Container (Horizontale Schaalvergroting) |
+-----+

220

FIGUUR 10: COMPETITIVE ADVANTAGE MATRIX

225	FEATURE	DataGuardian	Systeem A	Systeem B	Systeem C	
	Automated Bias	Y	N	N	W	
	Multi-Framework	Y	N	N	W	
	BSN Detection	Y	N	N	N	
230	EU AI Act 2025	Y	W	W	W	
	Cost (Annual)	EUR 2.5K-25K	EUR 50K-500K	EUR 75K-400K	EUR 100K+	
	Cost Savings	BASELINE	95%	96%	97%	

235 Legend: Y = Full Support, W = Partial Support, N = No Support

FIGUUR 11: VALUE PROPOSITION

240	PATENT VALUE PROPOSITION		
	Market Opportunity:	EUR 447M (EU-wide AI compliance market)	
245	Target Market:	1.8M EU companies using AI	
	Netherlands Market:	EUR 23M (150,000 companies)	
	Penalty Prevention:	Up to EUR 35M per violation	
	Cost Savings:	95-97% vs commerciele oplossingen	
250	Processing Speed:	<30s (vs hours manually)	

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	Accuracy:	95%+ bias, 98%+ compliance	
255	First-Mover Advantage:	EU AI Act enforced Feb 2025	
	Patent Protection:	20 years (until 2045)	
	Patent Value:	EUR 1M - EUR 2.5M	

260

BELANGRIJKE TECHNISCHE CORRECTIES

265

BSN FORMULE CORRECTIE:

OUD (FOUT):
 checksum = SUM(digit_i x (9-i)) mod 11 ✗ INCORRECT

270

NIEUW (CORRECT):
 checksum = (digit_0 x 9) + (digit_1 x 8) + ... - (digit_8 x 1) ✓ CORRECT

De laatste digit (digit_8) gebruikt factor 1, NIET factor (9-8)=1 via formule.

275 Dit is het officiële Nederlandse BSN 11-proef algoritme.

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EINDE TEKENINGEN EN FORMULES

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