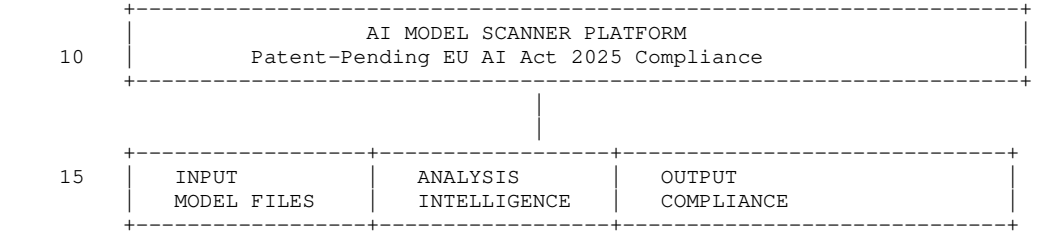
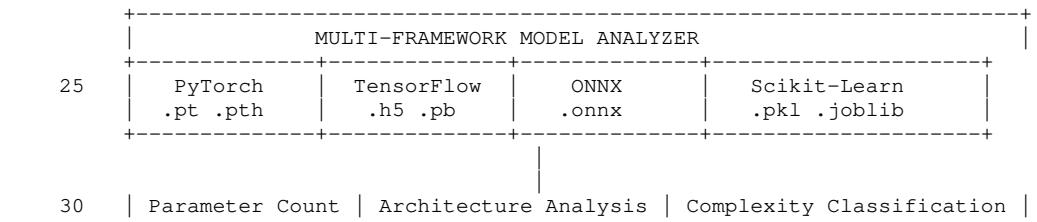
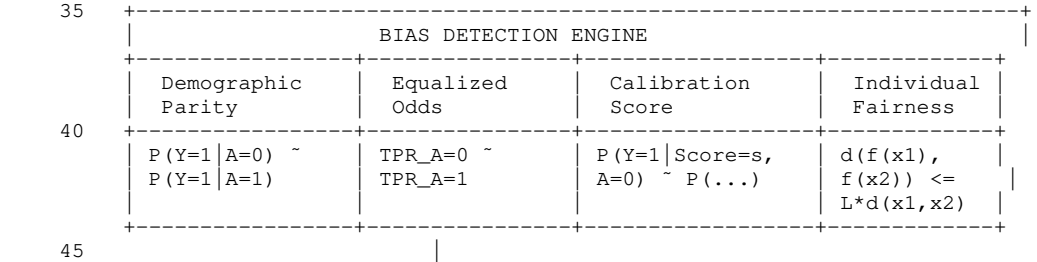
FIGUUR 1: SYSTEEM ARCHITECTUUR OVERZICHT



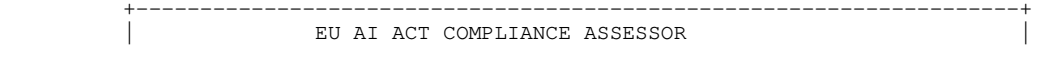
FIGUUR 2: MULTI-FRAMEWORK ANALYZER

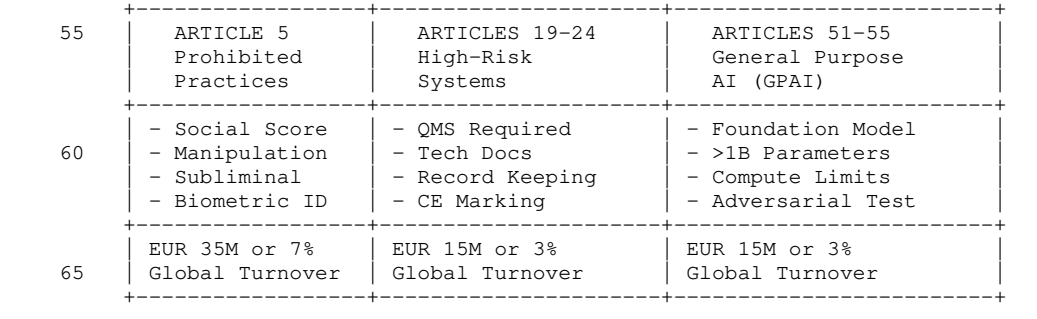


FIGUUR 3: BIAS DETECTION ENGINE

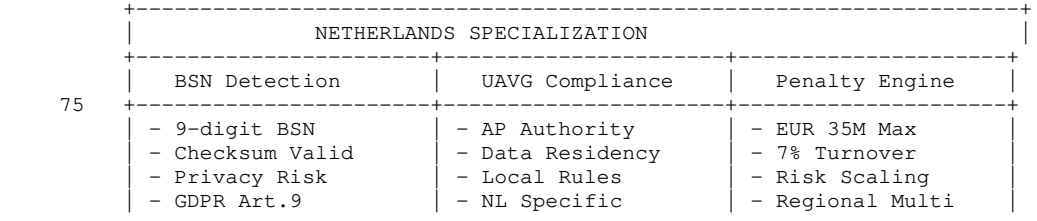


FIGUUR 4: EU AI ACT COMPLIANCE ASSESSOR





FIGUUR 5: NEDERLANDS SPECIALISATIE



```
+----------------------+----------------------+--------------------+
```

FIGUUR 6: MATHEMATISCHE FORMULES (GECORRIGEERD)

BIAS DETECTION ALGORITHMS:

Formule 1 - Demographic Parity:
$P(Y=1|A=0) \approx P(Y=1|A=1)$

Formule 2 - Equalized Odds:
$TPR_{A=0} \approx TPR_{A=1}$ EN $FPR_{A=0} \approx FPR_{A=1}$

Formule 3 - Calibration Score:
$P(Y=1|Score=s,A=0) \approx P(Y=1|Score=s,A=1)$

Formule 4 - Individual Fairness:
$d(f(x1),f(x2)) \leq L*d(x1,x2)$

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
= 66 mod 11 = 0 Y GELDIG

PENALTY CALCULATION:

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

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

FIGUUR 7: SYSTEEM FLOW DIAGRAM

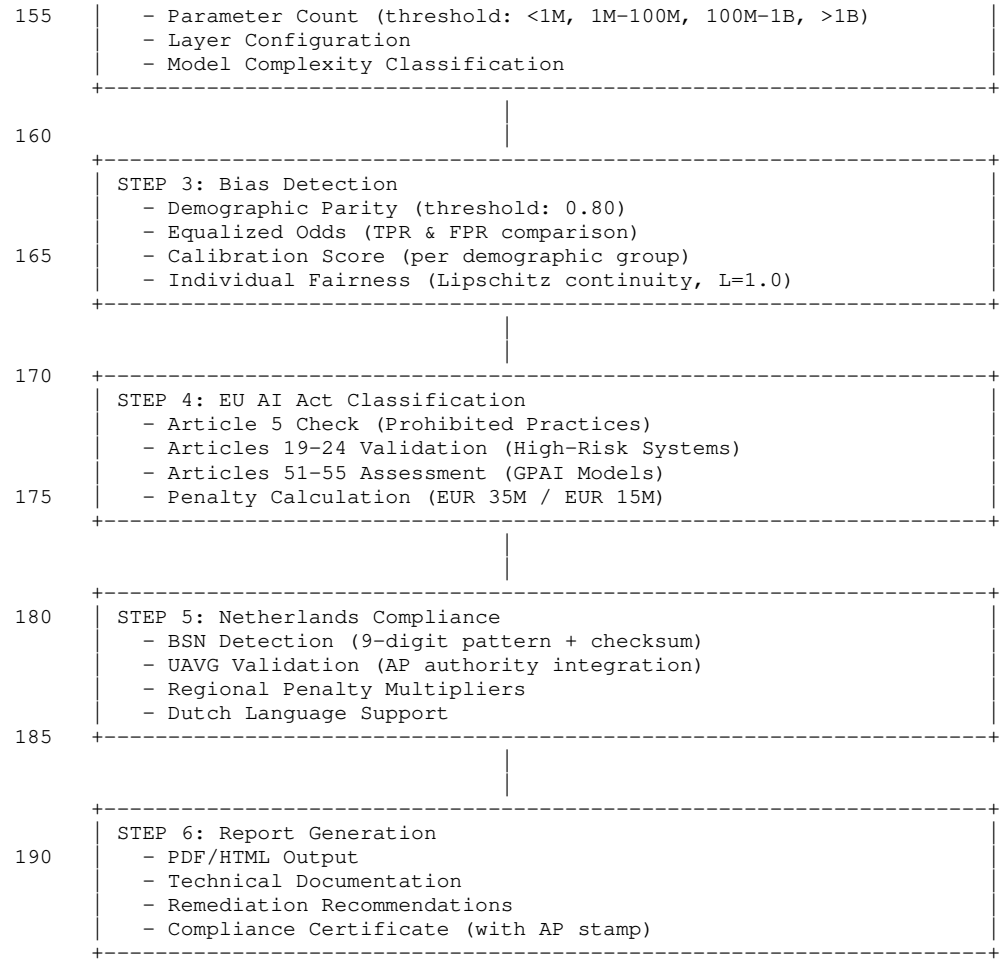
```
INPUT
  |
  +--> Multi-Framework Analysis
       |
       +--> Bias Detection
            |
            +--> EU AI Act Assessment
                 |
                 +--> Netherlands Specialization
                      |
                      +--> Real-time Monitoring
                           |
                           +--> Compliance Reports
```

FIGUUR 8: PROCESSING PIPELINE

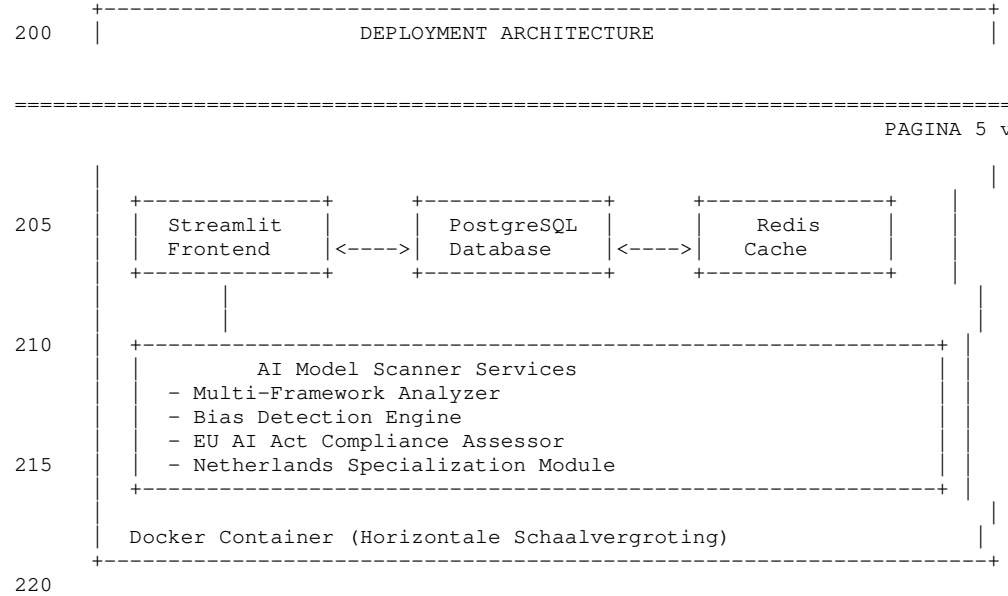
```
+-------------------------------------------------------------------+
| STEP 1: Model Upload                                              |
|   - Framework Detection (PyTorch/TensorFlow/ONNX/scikit-learn)    |
|   - File Validation (.pt, .pth, .h5, .pb, .onnx, .pkl, .joblib)   |
+-------------------------------------------------------------------+
                                  |
                                  |
```



```
+-------------------------------------------------------------------+
| STEP 2: Architecture Analysis                                     |
```



FIGUUR 9: DEPLOYMENT ARCHITECTUUR

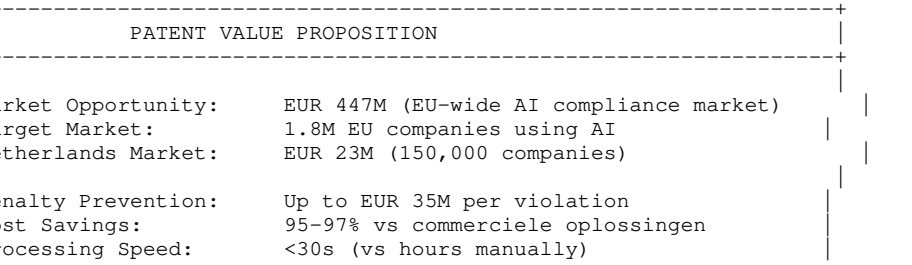


FIGUUR 10: COMPETITIVE ADVANTAGE MATRIX

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
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%

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

FIGUUR 11: VALUE PROPOSITION



BELANGRIJKE TECHNISCHE CORRECTIES

BSN FORMULE CORRECTIE:

OUD (FOUT):

```
checksum = SUM(digit_i x (9-i)) mod 11  N INCORRECT
```

NIEUW (CORRECT):

```
checksum = (digit_0 x 9) + (digit_1 x 8) + ... - (digit_8 x 1) Y CORRECT
```

De laatste digit (digit_8) gebruikt factor 1, NIET factor (9-8)=1 via formule.
Dit is het officiele Nederlandse BSN 11-proef algoritme.

EINDE TEKENINGEN EN FORMULES