

An illustration of three people in a city setting. A woman in a blue jacket and orange skirt is running while looking through a telescope. A man in a blue jacket and yellow pants is standing on a brown suitcase, looking through a large telescope. Another person is visible in the background, also looking through a telescope. The background features stylized blue buildings and a light blue sky with white clouds.

Analysis Dutch Algorithm Register

Transparency in practice



Dutch Algorithm Register: from pinnacle of transparency to puzzle of paperwork

The aim is to foster trust...



Transparency: it should provide insight in algorithmic systems used by governments



Explainability: it aims to clarify how algorithms influence decision-making and what personal data are used



Verifiability: enabling internal and external actors to check logic of algorithm

...but the execution falls short



Missing records: Many organisations have not yet published in the Registry, or their submissions are incomplete



Uninformative: The information in the Registry is often poor and provides little meaningful insight



Incomplete: Key information is often missing. **53%** of high-impact algorithms lack a registered impact assessment



1.245

registered algorithms and AI systems by **289** organisations

How to find the algorithms that matter?

The 1.245 registered algorithms are categorized on type and impact

| | High-risk AI | High-impact algorithms | Other |
|--------------------------------------|--------------|------------------------|------------|
| Municipalities (777x) | 2% | 44% | 54% |
| Executive branches and others (379x) | 3% | 58% | 39% |
| Provinces (53x) | 12% | 28% | 60% |
| Ministries (36x) | 0% | 28% | 72% |
| Total (1.245x) | 3% | 47% | 50% |

Definition of different types of algorithms

High-risk AI system: AI systems under the AI Act which pose a significant risk of harm to health, safety or fundamental rights, according to i.a. Annex III risk categories

High-impact algorithm: Algorithms which have a legal or otherwise significant impact

Other algorithms: Algorithms published for other reasons, such as demystification

Some Dutch municipalities perform well, others need to catch up

Top 5 vs bottom 5 performers out of 20 largest Dutch municipalities


| | Municipality | High-risk | High-impact | Other | Total |
|-----|--------------|-----------|-------------|-------|-------|
| 1. | Amsterdam | 0 | 34 | 29 | 63 |
| 2. | Rotterdam | 1 | 8 | 14 | 23 |
| 3. | The Hague | 2 | 19 | 22 | 43 |
| 4. | Utrecht | 0 | 45 | 0 | 45 |
| 5. | Eindhoven | 0 | 3 | 0 | 3 |
| 6. | Groningen | 0 | 6 | 9 | 15 |
| 9. | Breda | 0 | 0 | 0 | 0 |
| 11. | Apeldoorn | 0 | 0 | 0 | 2 |
| 18. | Den Bosch | 1 | 0 | 0 | 1 |
| 19. | Zwolle | 0 | 0 | 0 | 0 |


↓ Sorted by population

Quality over quantity; numbers don't capture it all

Having many records does not mean that they are well-completed

| | Impact assessment | Lawful basis | Methods and models | Proportionality |
|-----------------|-------------------|--------------|--------------------|-----------------|
| Amsterdam (63x) | 54% | 27% | 63% | 75% |
| Rotterdam (28x) | 82% | 79% | 100% | 89% |
| Utrecht (45x) | 100% | 16% | 7% | 100% |
| Almere (12x) | 8% | 58% | 83% | 83% |

 100% complete

 0% complete

Only a quarter of Amsterdam's registrations contain a legal basis 🤔



Quality vs quantity: Algorithm Audit recommends to publish fewer high-quality registries rather than a larger number of low-quality registries

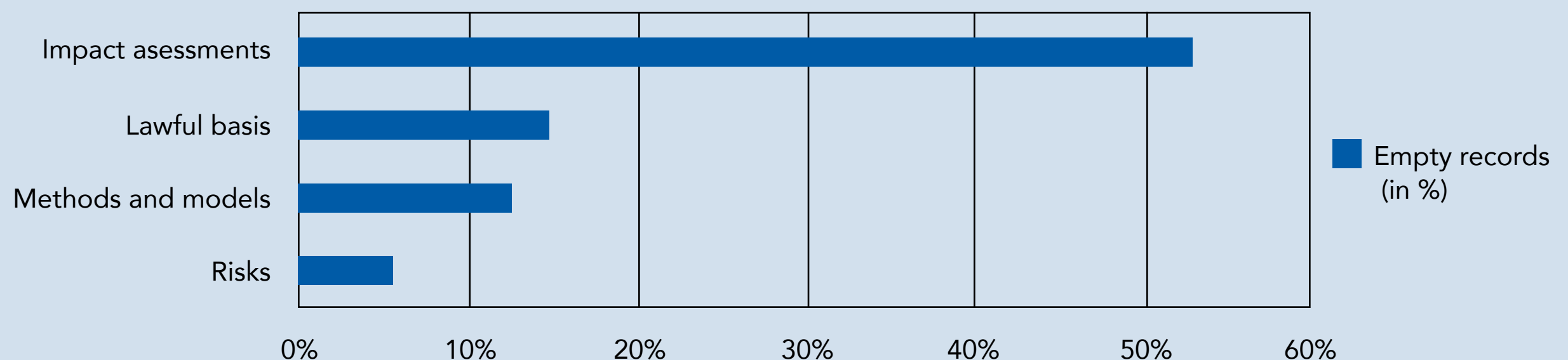
The Register reveals lack of governance for high-impact algorithms

Key information is missing for many high-impact algorithms

53% of registered high-impact algorithms (n=583) lack an impact assessment

14% of all registered high-impact algorithms have no lawful basis provided for their use

Missing records for registered high-impact algorithms (N=583)



The same AI systems receive different risk classifications across organizations

Same AI system, different risk category

| AI system | Assigned risk category | Correct risk category |
|----------------------------------|------------------------------|-----------------------|
| Facial recognition (Oribi) (21x) | Other (9x) High-risk (2x) | High-impact (10x) |
| Intelligent Traffic Lights (8x) | High-risk (3x) | Other (5x) |
| MONOCam (1x) | High-impact (1x) | High-risk (0x) |



Inconsistency: The same facial recognition AI system from the same provider is identified differently by different organizations



Risk classification: In general, organizations often face challenges in accurately categorizing risk, frequently under- or overestimating the risk associated with algorithmic systems

Room for improvement: we're here to help

Three ways to improve the Algorithm Register

- i. **Vertical standards:** Develop technology-specific requirements – such as accuracy specifications for facial recognition software – that can be requested during procurement and can be published in the Algorithm Register
- ii. **Mandatory publication requirements:** Require high-risk AI systems and high-impact algorithms to publish, at least, their legal basis and an identification of risks
- iii. **Guidelines for complete and consistent classification:** National guidelines are needed to ensure accurate and consistent identification and risk classification across organisations



Algorithm Audit is maintaining a free to use and [open source tool](#) that is helping organisations to comply with regulations for algorithms and AI

Building *public knowledge*
for *responsible AI*

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