

Data Analytics Environment Maturity Assessment

Please select exactly one answer per question. Select the option that best describes your current situation today, not the situation you are working toward.

Dimension 6 — Data Analytics Environment

Definition*: Analytical services, tooling, and access to secure data environments. A secure data environment (SDE) is a controlled workspace in which approved users analyze data without being able to copy it out; a federated setup runs the analysis at each organization so that data never leaves the site.

1. Where can your data be analyzed?*

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|---|--------|
| ☐ Nowhere on our side. We can only send files. | 1 pt. |
| ☐ Analyses are run by our own staff, and results are returned in aggregated or anonymized form. | 2 pts. |
| ☐ Approved users can work with the data inside a secure data environment (SDE). | 3 pts. |
| ☐ The dataset can be used in an SDE, and users can bring in additional data and their own tools. | 4 pts. |
| ☐ The dataset can be used in a federated environment, where analysis runs across several organizations without data leaving each site. | 5 pts. |

You can support this answer with: a description of your analysis environment, user access records.

2. Who can run an analysis on your data?*

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|--|--------|
| ☐ Nobody, as we cannot support analysis at all. | 1 pt. |
| ☐ Only our own staff, running simple predefined queries. | 2 pts. |
| ☐ Our own staff, running custom analyses on request. | 3 pts. |
| ☐ External users, running their own analyses in a controlled environment. | 4 pts. |
| ☐ External users, running their own analyses across federated datasets. | 5 pts. |

You can support this answer with: your list of external analysis projects, environment user list.

3. How is the analysis environment secured?*

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|--|--------|
| ☐ There is no controlled environment, so data is sent out as files. | 1 pt. |
| ☐ Access is controlled by a password and an agreement only. | 2 pts. |
| ☐ Named user accounts, access logging, and defined roles. | 3 pts. |
| ☐ The above, in an environment from which data cannot be downloaded. | 4 pts. |
| ☐ The above, independently assessed or certified, and reviewed regularly. | 5 pts. |

You can support this answer with: your access control policy, environment security assessment.

4. How flexible is the environment for its users?*

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|--|--------|
| ☐ Only fixed outputs. Users cannot choose what is produced. | 1 pt. |
| ☐ A single tool that we provide, with no way to add anything. | 2 pts. |
| ☐ The common analysis tools are available, for example, R, Python, and SQL. | 3 pts. |
| ☐ Users may install additional tools themselves within the environment. | 4 pts. |
| ☐ Users may install their own tools and link in additional datasets. | 5 pts. |

You can support this answer with: the tool catalog of your environment, user guidance.

5. How do you control what leaves the environment?*

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|---|--------|
| ☐ There are no checks on results leaving. | 1 pt. |
| ☐ Somebody glances at results before they go out. | 2 pts. |
| ☐ A documented disclosure rule is applied, for example, a minimum cell size. | 3 pts. |
| ☐ Disclosure control is applied by a trained reviewer and recorded. | 4 pts. |
| ☐ Disclosure control is documented, applied consistently, audited, and partly automated. | 5 pts. |

You can support this answer with: your output checking policy, disclosure control log.

YOUR NOTES FOR THIS DIMENSION

What sits behind these answers: the practices and tools you rely on, recent improvements, and the gaps that explain the lower scores. This is the material for the supporting narrative on the Overall Score sheet.

DIMENSION SCORE

Add up the points of all 5 answers and divide by 5. Keep one decimal.

YOUR MATURITY LEVEL

Round the dimension score down to the nearest whole number.

Level 1 Initial Starting out · 1 Point	Level 2 Emerging Written down · 2 Points	Level 3 Defined In practice · 3 Points	Level 4 Managed Measured · 4 Points	Level 5 Optimized Improving · 5 Points
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The five maturity levels in this dimension

Your five answers average to one level. Each row describes what that level typically looks like across all five questions, so you may be ahead of it on some points and behind on others.

Level 1 Initial	No environment; files are sent out; no checks on results and no choice of output.
Level 2 Emerging	Your staff run predefined queries; access by password and agreement; results glanced at.
Level 3 Defined	Approved users work in a secure environment with named accounts and a disclosure rule.
Level 4 Managed	External users analyze in a no-download environment with their own tools; output reviewed.
Level 5 Optimized	Federated analysis, independently assessed; users bring tools and data; disclosure audited.

Your next step: find the row for the level you reached, then read the row directly below it. That row is what you need to achieve to move up one level in this dimension.

Note: Every question in this dimension uses the same 1–5 scale, and the same real-world situation is worth the same number of points in every question, so both the lowest and the highest level are reachable. Transfer your maturity level for this dimension to the *Maturity Overall Score Calculation* sheet, which brings all ten dimensions together.

References*

Question 1 follows the maturity levels of this dimension in the QUANTUM data holders' maturity model (Deliverable 1.2 v3.5); the wording is EHDS4ALL's own. Underlying source given there for this dimension: Adapted HDRUK. Questions 2 to 5 are EHDS4ALL, developed from the WP3 workshop of August 2024 and the expert interviews of October 2024. The five level statements below combine all five questions, because the dimension score is the average of all five answers.

Jones, M., & Bernal-Delgado, E. (2025). **Deliverable 1.2 — Specification for the assessment of data holders' maturity** (Version 3.5.0). QUANTUM project. Zenodo. doi: 10.5281/zenodo.14944767

Gordon, B., Barrett, J., Fennessy, C., et al. (2021). Development of a data utility framework to support effective health data curation. *BMJ Health & Care Informatics*, 28(1), e100303.

European Commission. (2022). Proposal for a Regulation of the European Parliament and of the Council on the European Health Data Space. COM(2022) 197 final. Adopted as Regulation (EU) 2025/327.

EHDS4ALL (2024). Protocol, Workshop Kick-off WP3, Cologne, 19 August 2024. Work Package 3, dimension validation and maturity levels.

EHDS4ALL (2024). Expert interviews with health data holders and maturity model developers, October 2024. Conducted by inav and the University of Cologne; participants anonymized.