<table>
<thead>
<tr>
<th>Service category-specific KPIs</th>
<th>Databases</th>
<th>Tools / applications</th>
<th>Libraries / APIs</th>
<th>Support / consulting</th>
<th>Workflows / pipelines</th>
<th>Web applications</th>
<th>Support / consulting</th>
<th>Tool / application</th>
<th>Web application</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Database:</strong> software providing large amounts of structured data to the user. Usually the data can be uploaded, accessed, searched and/or downloaded via a web browser.</td>
<td>• #Visits</td>
<td>• #Downloads</td>
<td>• #Downloads</td>
<td>• #Support tickets</td>
<td>• #Citations</td>
<td>• #Citations</td>
<td>• #Support tickets</td>
<td>• #Downloads</td>
<td>• #Citations</td>
</tr>
<tr>
<td><strong>Tools / applications</strong></td>
<td>• #Citations</td>
<td>• #Citations</td>
<td>• #Publications</td>
<td>• #Downloads distinct IPs*</td>
<td>• #Support tickets</td>
<td>• #Downloads</td>
<td>• #Downloads</td>
<td>• #Executions</td>
<td>• #Publications</td>
</tr>
<tr>
<td><strong>Libraries / APIs</strong></td>
<td>• #Unique users/visitors</td>
<td>• #Support tickets</td>
<td>• #Visits</td>
<td>• #Grant applications*</td>
<td>• #Users*</td>
<td>• #Visits</td>
<td>• #Visits</td>
<td>• #Users*</td>
<td>• #Projects*</td>
</tr>
<tr>
<td><strong>Support / consulting</strong></td>
<td>• #Recurring users/visitors</td>
<td>• #Pageviews</td>
<td>• #Visits duration*</td>
<td>• #Actions</td>
<td>• #Support tickets</td>
<td>• #Users*</td>
<td>• #Support tickets</td>
<td>• #Users*</td>
<td>• #Storage usage*</td>
</tr>
<tr>
<td><strong>Workflows / pipelines</strong></td>
<td>• #Support tickets</td>
<td>• #Visits</td>
<td>• #Visits</td>
<td>• #Actions</td>
<td>• #Users*</td>
<td>• #Visits</td>
<td>• #Visits</td>
<td>• #Projects*</td>
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</tr>
<tr>
<td><strong>Web applications</strong></td>
<td>• #Unique users/visitors</td>
<td>• #Pageviews</td>
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</tbody>
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*Optional KPI

#Citations: main KPI

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Contact: michael.turewicz@rub.de
Definitions of key performance indicators (KPIs)

- **#Actions**: number of actions performed (page views, downloads, searches, outlinks)
- **#Actions per visit**: average number of actions per visit.
- **#Citations (Support/consulting)**: number of citations of the publications included in "#Publications (Support/consulting)"
- **#Citations**: number of citations of the publication(s) describing the service.
- **#Citation DOIs**: search for specific DOIs
- **#Downloads (databases)**: number of downloaded datasets.
- **#Downloads (tools, libraries/APIs)**: number of software downloads.
- **#Downloads_distinct_IPs**: number of software downloads from year-wise distinct IPs.
- **#Executions**: number of executions of the software.
- **#Grant applications**: number of grant applications related to the service.
- **#Hits**: number of hits without robots.
- **#Pageviews**: number of times a page has been viewed.
- **#Projects**: number of projects related to the service.
- **#Publications (databases)**: number of publications as first and co-author in peer reviewed journals describing the database.
- **#Publications (Support/consulting)**: number of publications with explicit mention of de.NBI-staff/de.NBI-service in the acknowledgements section or where de.NBI staff is included in author list and de.NBI is mentioned explicitly.
- **#Recurring users (databases)**: number of unique users without robots.
- **#Storage usage**: amount of storage used by the service.
- **#Support tickets**: number of user requests regarding the service.
- **#Unique users**: number of unique users without robots.
- **#Users (tools/applications & workflow/pipelines)**: yearly number of distinct IPs from "phoning home".
- **#Users (webapplications)**: number of registered users.
- **#Visitors**: number of unique visitors
- **#Visits (databases)**: number of visits without robots.
- **#Visits (webapplications)**: number of visits of all visitors (default 30min session)
- **#Visits duration**: average duration of the visits (session time)

How to collect KPIs

- **#Actions**: Matomo, Google Analytics
- **#Actions per visit**: Matomo, Google Analytics
- **#Citations (Support/consulting)**: Google Scholar
- **#Citations**: Google Scholar
- **#Citation DOIs**: Google Scholar
- **#Downloads (databases)**: Matomo, Google Analytics
- **#Downloads (tools, libraries/APIs)**: Bioconductor, GitHub, Google Analytics, Matomo.
- **#Downloads_distinct_IPs**: Bioconductor, GitHub, Google Analytics, Matomo.
- **#Executions**: Matomo, Google Analytics
- **#Grant applications**: collecting grant numbers
- **#Hits**: Matomo, Google Analytics
- **#Pageviews**: Matomo, Google Analytics
- **#Projects (workflows/pipelines)**: service-specific
- **#Publications (databases)**: Google Scholar
- **#Publications (Support/consulting)**: count number of PubMed publications matching the KPI definition.
- **#Recurring users**: Matomo, Google analytics
- **#Storage usage (workflows/pipelines)**: service-specific
- **#Support tickets**: Count the number of user requests manually or automatically via a ticket system (e.g., RT).
- **#Unique users**: Matomo, Google Analytics
- **#Users (tools/applications, web applications)**: Matomo, Google Analytics
- **#Visitors**: Matomo, Google Analytics
- **#Visits (databases)**: Matomo, Google Analytics
- **#Visits (webapplications)**: Matomo, Google Analytics
- **#Visits duration**: Matomo, Google Analytics