

# Scientific & technical assessment requires YOUR data - FAIR and quality assured

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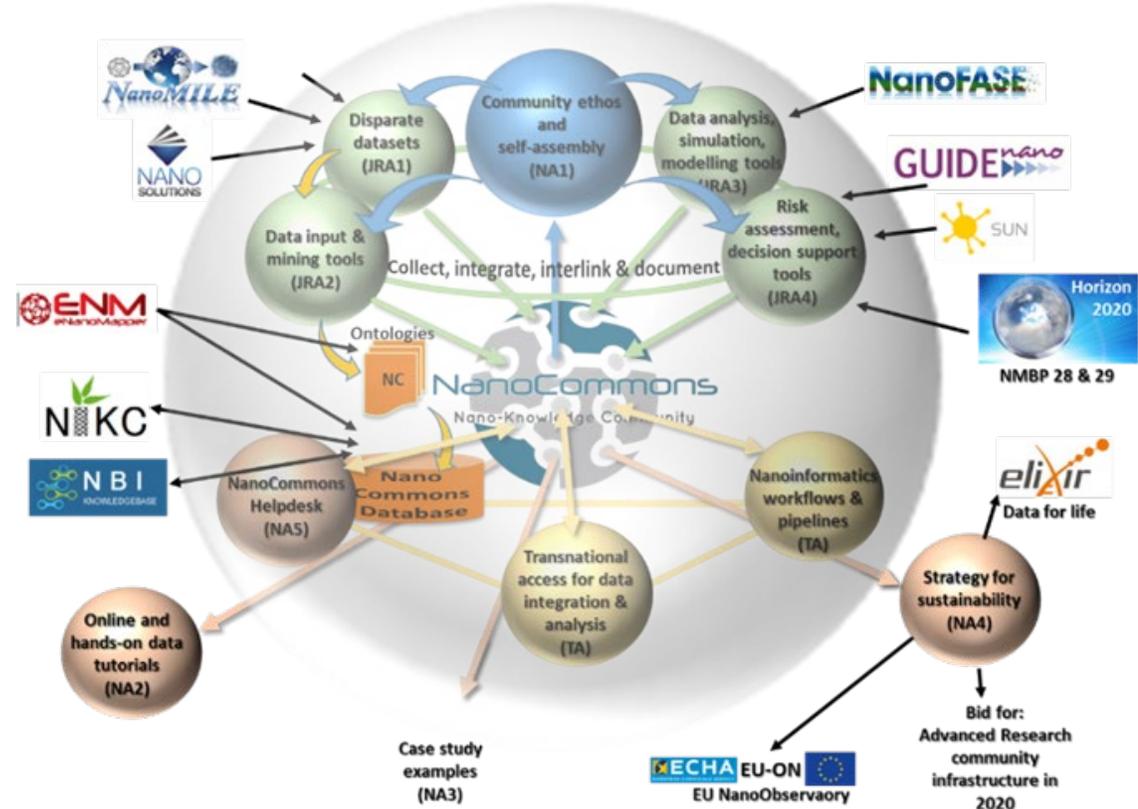
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# The idea – problem & solution

**Nanotechnologies** are a major area of investment & growth for the European economy

Knowledge and **data** remain **fragmented** and inaccessible **hampering progress**

**Read-across approaches** are currently **absent for NMs**, but would reduce the cost and time of nanosafety research and regulation



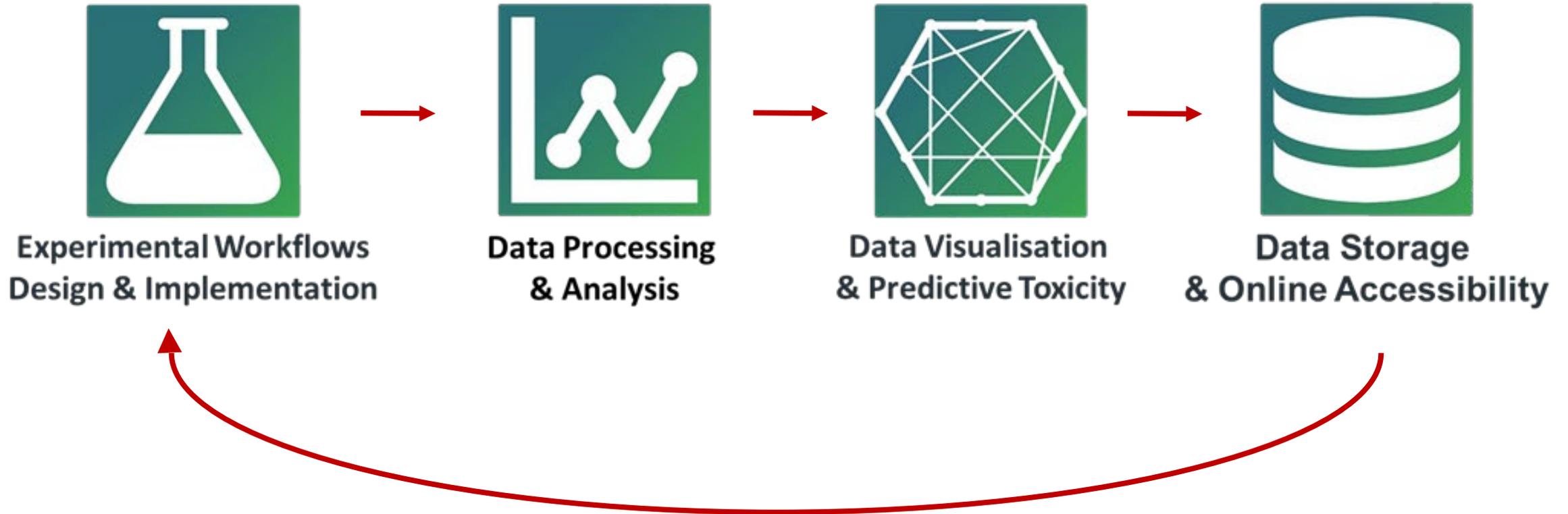
**NanoCommons** is creating an **e-infrastructure** platform for reproducible science, enhancing **data integration & enabling nanoinformatics workflows** to address these gaps

# What means data FAIRness?

- To **remove barriers** for nanosafety **regulatory and industry** processes
- To develop **integrated knowledgebases** to facilitate development and application of regulatory tools, such as **grouping & read-across**
- To create an **interconnected community** *via* a **FAIR data single market**
- To enable **full exploitation of EU-funded research data** & promotion of **data-driven innovation** leading to **positive socioeconomic impact**



# What is the **data life cycle**?

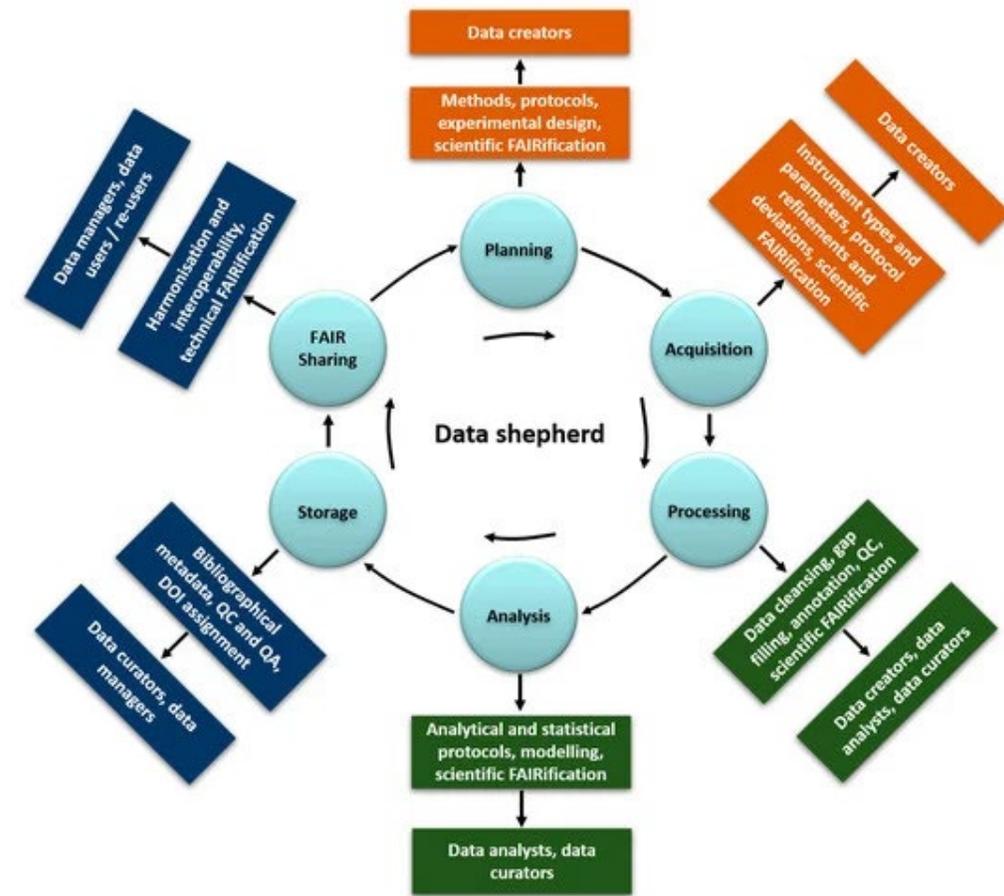


? how rich shall metadata (*i.e.*, data describing the data and thus making it understandable/re-usable) be collected to achieve the goal of providing FAIR high-quality data to the community?

# What means quality assured data?

## Data shepherd...

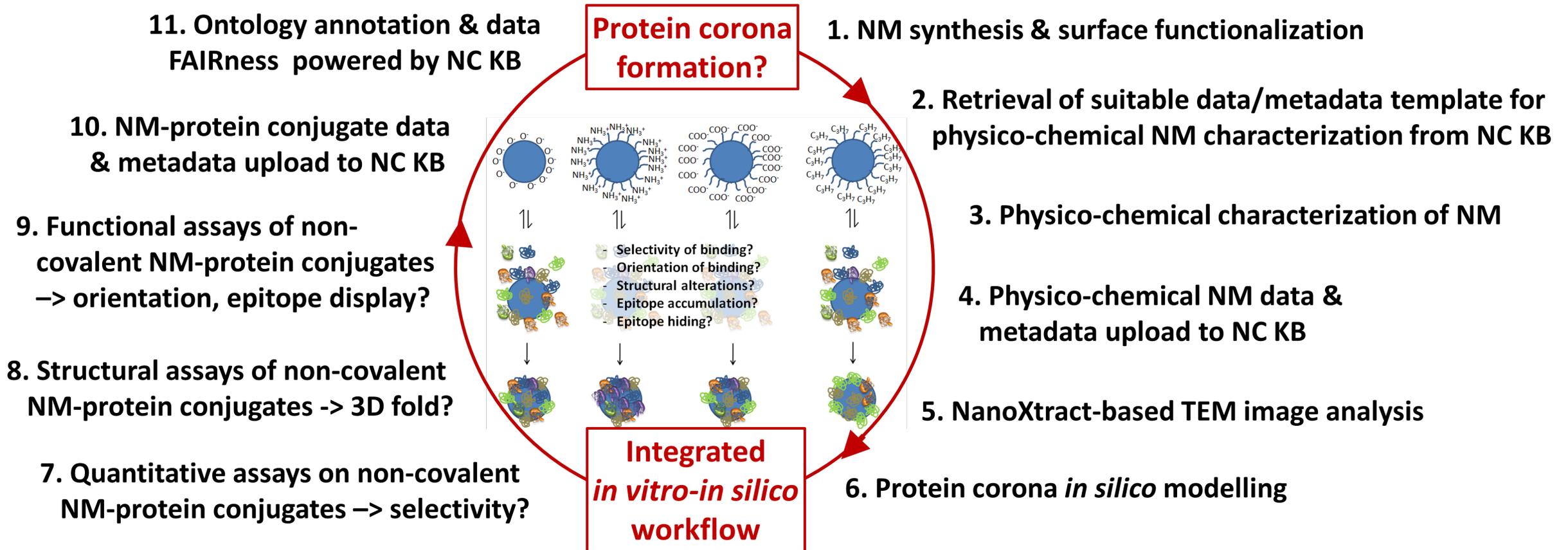
- combine experimental, computational and technical background/experience,
- understand the context in which the different parties express themselves,
- lead the data quality control and FAIRness evaluation,
- continuously optimise data workflows, including technical developments to facilitate data curation, annotation, and cleansing.



|                  | Set Objectives | Design Approach | Collect | Processing | Modelling/ Analysis | Validate | Store | Share | Quality Control | Annotation | Determine Relevance | Apply | Confirm Effectiveness | Generalise | Communication and Education |
|------------------|----------------|-----------------|---------|------------|---------------------|----------|-------|-------|-----------------|------------|---------------------|-------|-----------------------|------------|-----------------------------|
| Creators         | X              | X               | X       | X          |                     | X        |       |       | X               | X          | X                   |       | X                     |            | X                           |
| Analysts         |                | X               |         | X          | X                   | X        |       |       | X               | X          | X                   |       | X                     | X          | X                           |
| Curators         |                |                 |         | X          |                     | X        |       |       | X               | X          | X                   |       | X                     |            | X                           |
| Managers         |                |                 |         |            |                     |          | X     | X     | X               |            |                     |       | X                     |            | X                           |
| Customers        | X              |                 |         |            |                     |          |       |       | X               |            | X                   | X     | X                     | X          | X                           |
| <b>Shepherds</b> | X              | X               | X       | X          | X                   | X        | X     | X     | X               | X          | X                   | X     | X                     | X          | X                           |

# Data supplemented with metadata, e.g.:

*The NanoCommons Knowledge Base (NC KB) integrates reliable experimental in vitro data on nanomaterials (NMs), ontology-annotated & metadata-supplemented, with in silico prediction tools*



# The NanoCommons Knowledge Base (NC KB)



BioXM™ Knowledge Portal

Username:   
Password:

Log in



**NanoCommons**

Nano-Knowledge Community

You don't have an account yet? Please [register here](#).  
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**NanoCommons Knowledge Base @ [www.nanocommons.eu](http://www.nanocommons.eu)**

[https://ssl.biomax.de/nanocommons/cgi/login\\_bioxm\\_portal.cgi](https://ssl.biomax.de/nanocommons/cgi/login_bioxm_portal.cgi)

**User Guidance Handbook @ [www.nanocommons.eu](http://www.nanocommons.eu)**

<https://www.nanocommons.eu/e-infrastructure/user-guidance-handbook/>

**Training events incl. online available teaching materials @ NanoCommons Infrastructure**

<https://infrastructure.nanocommons.eu/events/>

**NanoCommons @ ELIXIR TeSS**

[https://tess.elixir-europe.org/content\\_providers/nanocommons#events](https://tess.elixir-europe.org/content_providers/nanocommons#events)

**NanoCommons communities @ Zenodo**

<https://zenodo.org/communities/nanocommons>

**NanoCommons Channel @ YouTube**

<https://www.youtube.com/channel/UCuawpRvXNpglwyeItefTctw>

**mailing list of WG-A Education, Training, Communication**

[www.nanosafetycluster.eu](http://www.nanosafetycluster.eu)

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Thanks for your interest!

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