



AMdEX

**AMdEX - the trust grid**  
**Case: sharing sensor data**



# Sharing sensitive sensor data

- The use case
- The challenges
- AMdEX
- More challenges





# The Case: sensors on the Marineterrein Amsterdam



## Swimming & Sport

- water quality (BACTcontol)
- water temperature (Celcius)
- UV index ,
- air temperature,
- air quality



## Busyness

- Picnic
- Boardwalk,
- Terraces,
- Fitness Garden,
- Total Occupancy on MT
- <https://www.mt-dashboard.nl>



## Biodiversity

- Light Meter,
- Air Temperature,
- Evaporation rate,
- Moisture Level,
- pH balance, etc.

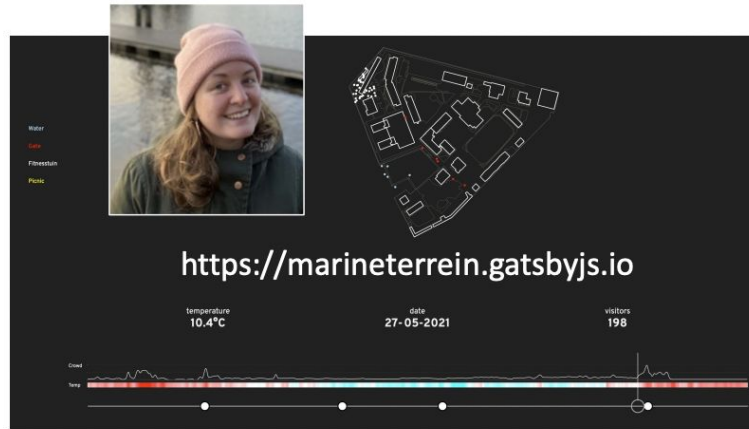




# How data is organized on the marineterrein

## DATA USER

Aurore Paligot (data journalist)



## DATA OWNER

Intermediary

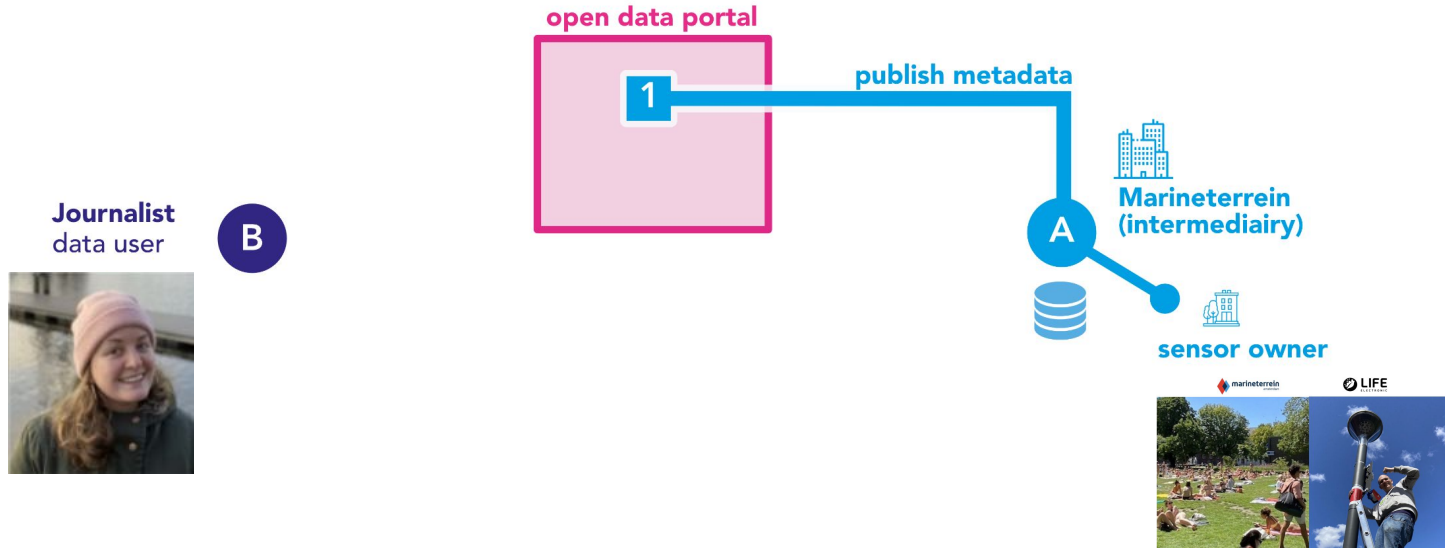


Data Collector



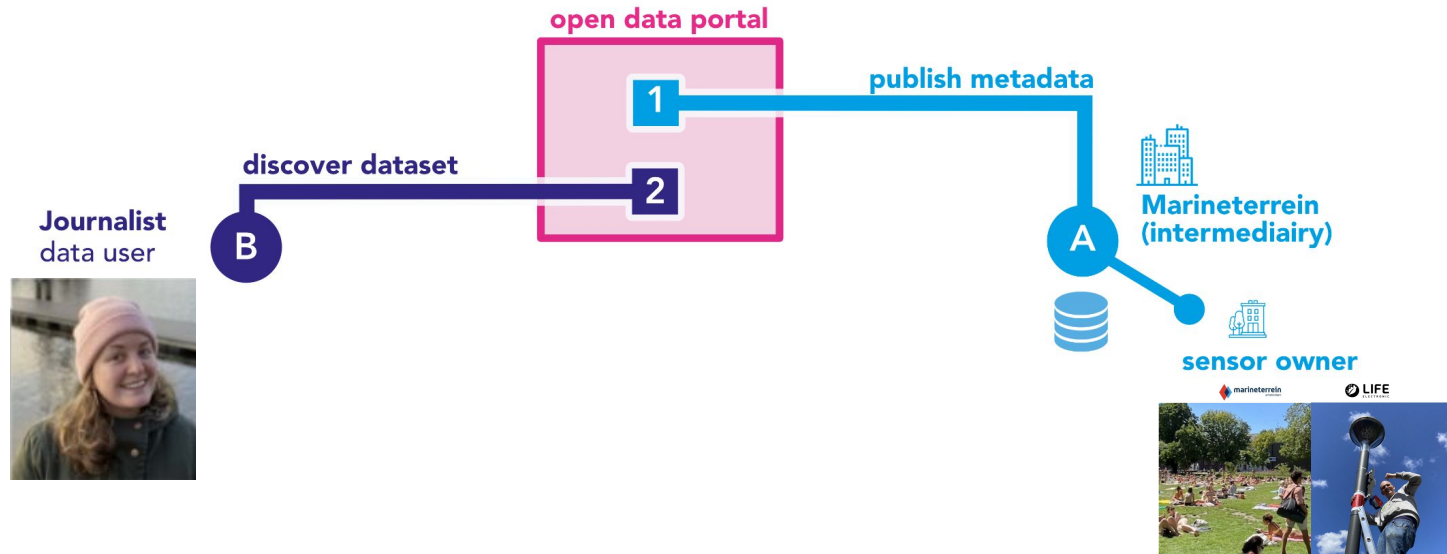


# How we share data now (open data)



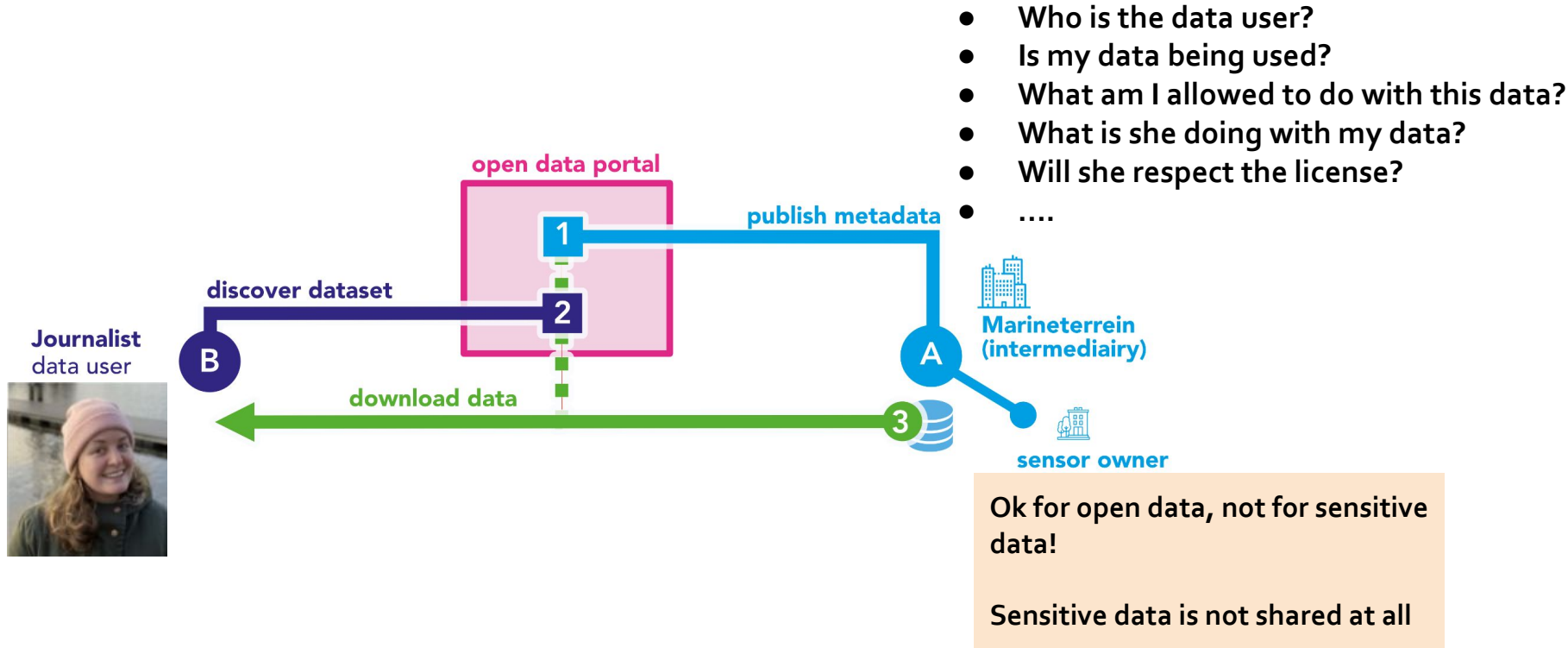


# How we share data now (open data)



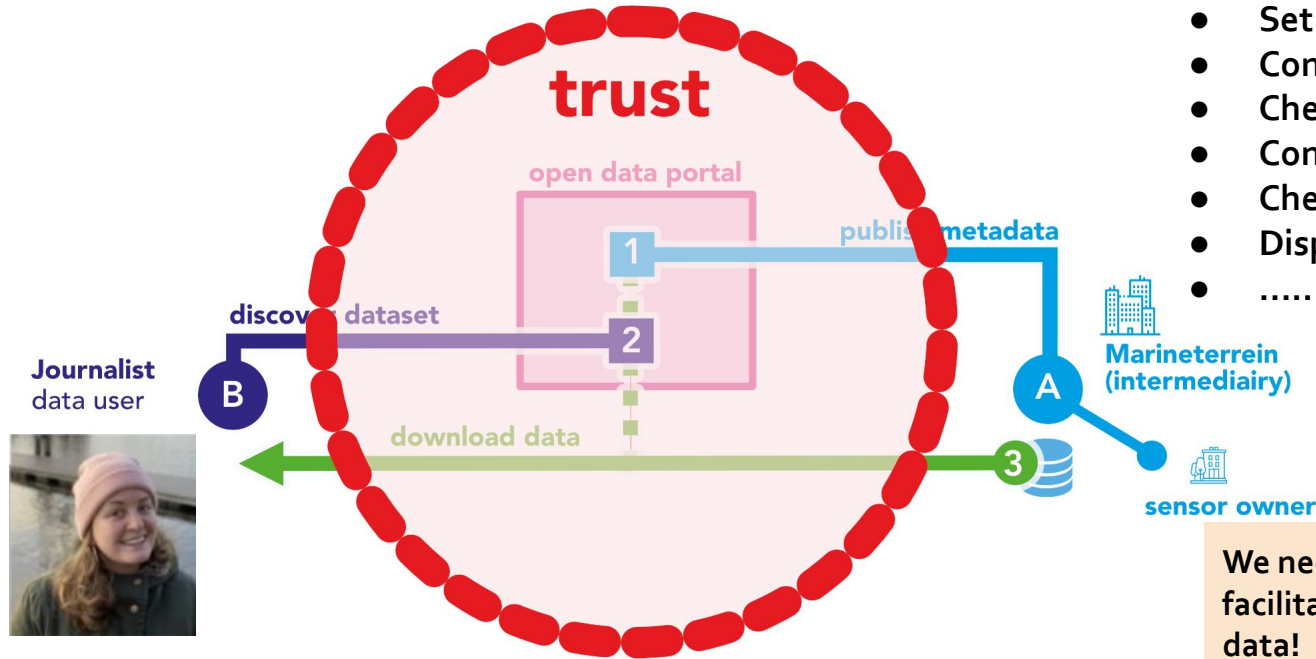


# How we share data now (open data)





# What we need for sensitive data: **trust!**



- Verify the identity of the data user
- Set conditions for access & usage
- Comply to GDPR & agreements
- Check memberships
- Control access to your data anytime
- Check usage + audit trail
- Dispute resolution + governance
- .....

We need a trust provider to facilitate sharing of sensitive data!



The logo for AMdEX is enclosed in a black rectangular border. The text 'AMdEX' is centered within the border. The 'A', 'M', 'E', and 'X' are in a bold, uppercase, sans-serif font. The 'd' is in a lowercase, sans-serif font, positioned between the 'M' and 'E'.

# AMdEX

THE DATA  
HYPERMARKET



# Principles for open and fair sharing of sensitive data



- Data sovereignty
- Control over your own data
- Be transparent on conditions for sharing
- Human & machine-readable offers & agreements
- Secure neutral ecosystem, a free flow of data

**A trusted, easy to use, environment for sharing data**



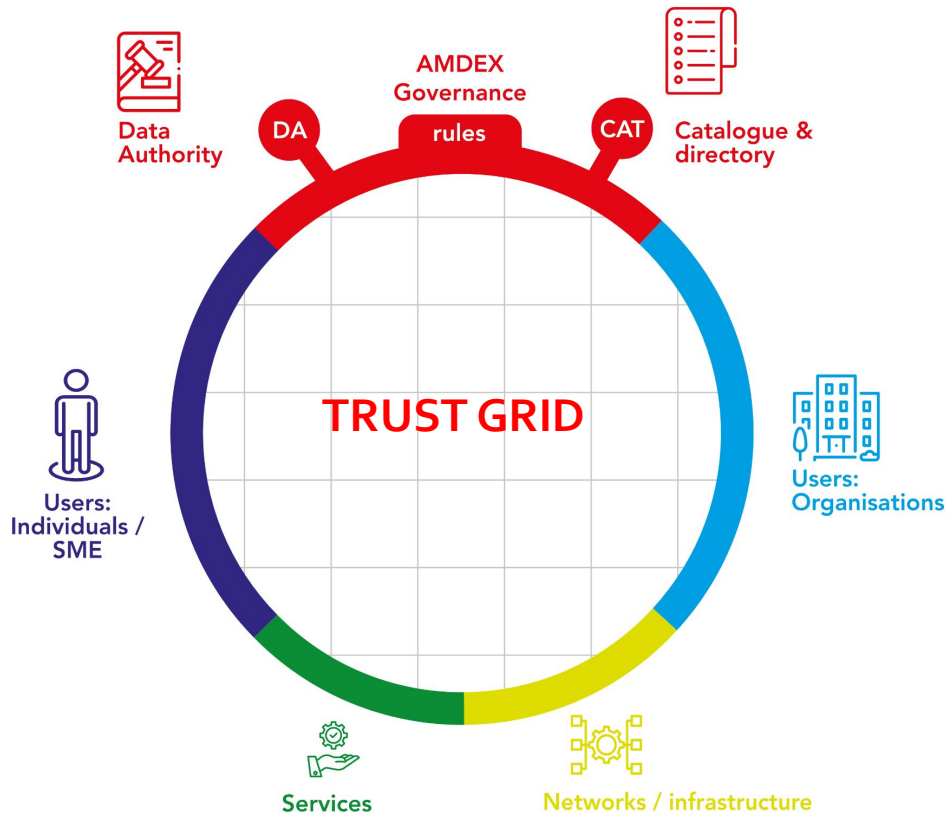
# Introducing the Amdex trust grid

## Amdex soft infrastructure (RED):

- **Rules** are transparent & available to all [UvA]
- **Catalogue** of data & service + conditions [Dexes]
- **Data Authority** provides trust , closes deals[Dexes]
- **Governance** provides trust

**Users (BLUE / PURPLE)** - small and larger data users - connected to **Dataspaces**, using **Pods** to identify + store

**Service and network providers (GREEN / YELLOW)** offers services on the grid for data exchange, data platforms, interoperability, anonymization, transformations, dataspace, etc.





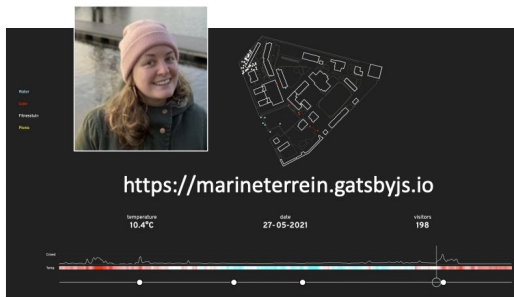
# Back to Aurore and Public Eye the sensor data

DATA USER

AMdEX

DATA OWNER

Aurore Paligot (data journalist)



**General Rule: data is available only to members of Marineterrein community (=agreement)**

Intermediary



Data Collector



**Specific condition: real time Public Eye data is only available in aggregated form (= data delivery condition)**

Receive a custom download link when data is ready

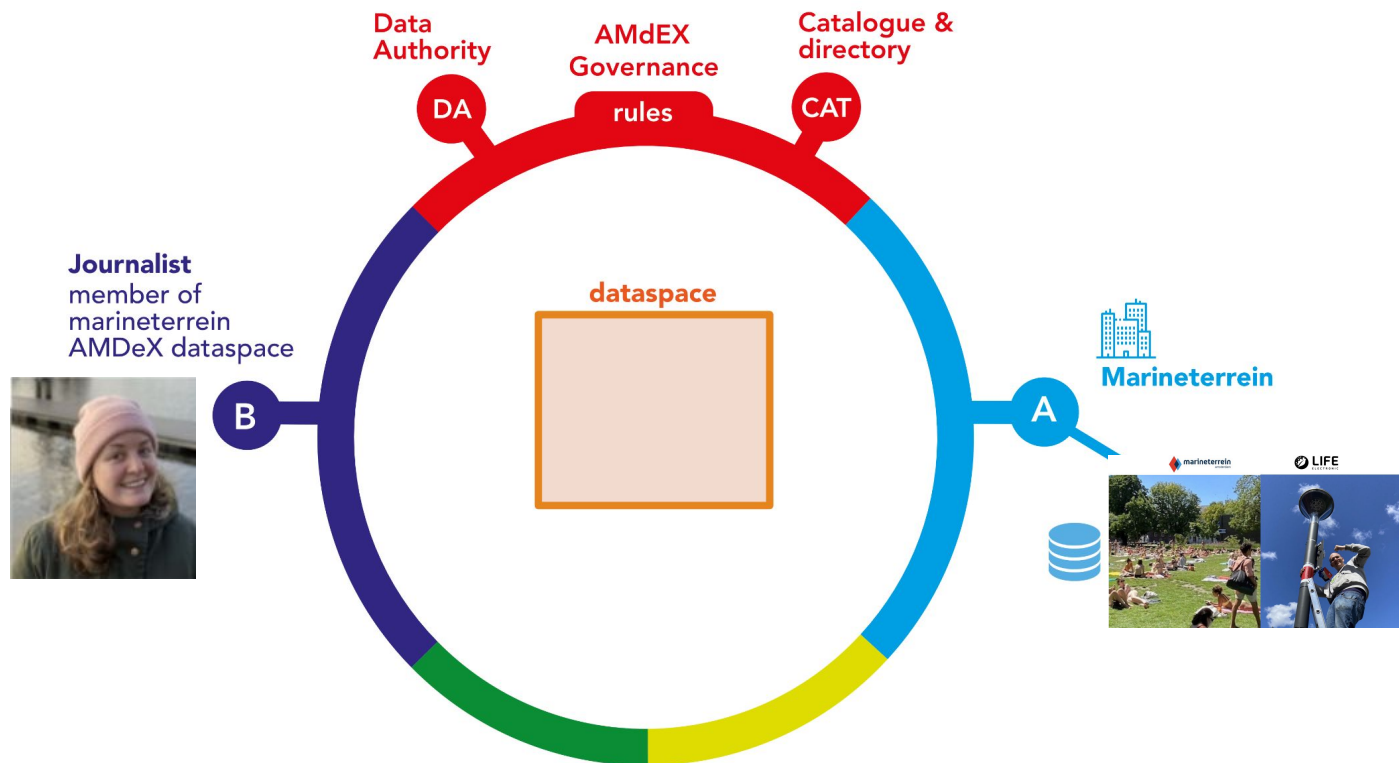


Prepare data delivery when conditions are met



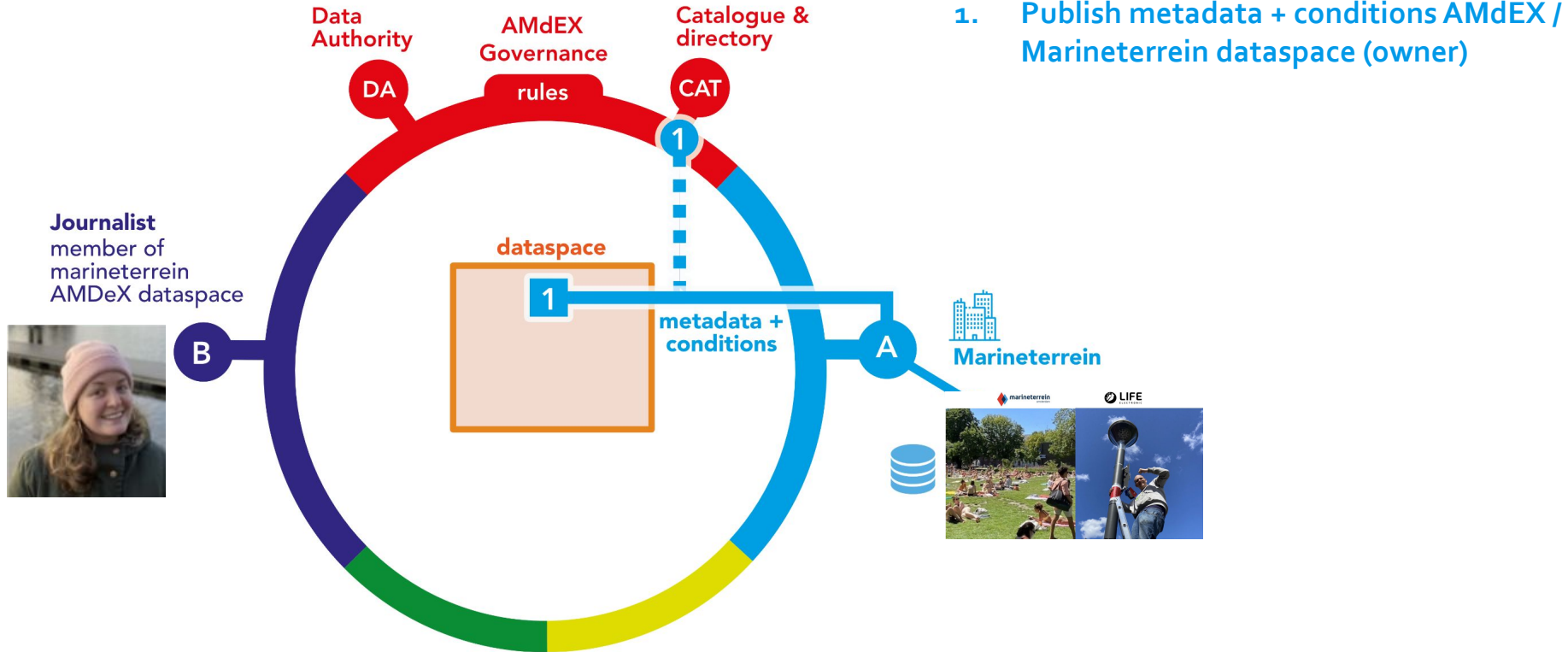


# The AMdEX trust grid for the use case



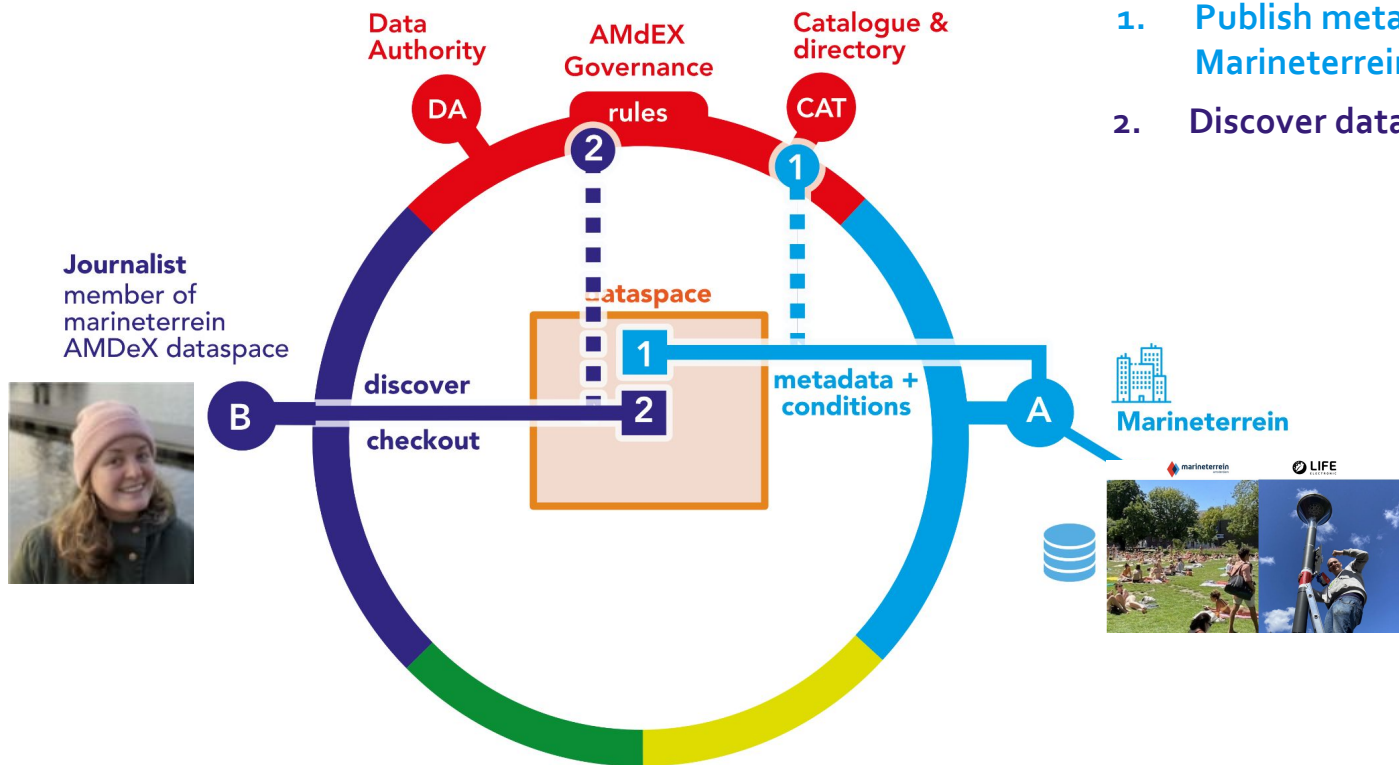


# The AMdEX trust grid for the use case



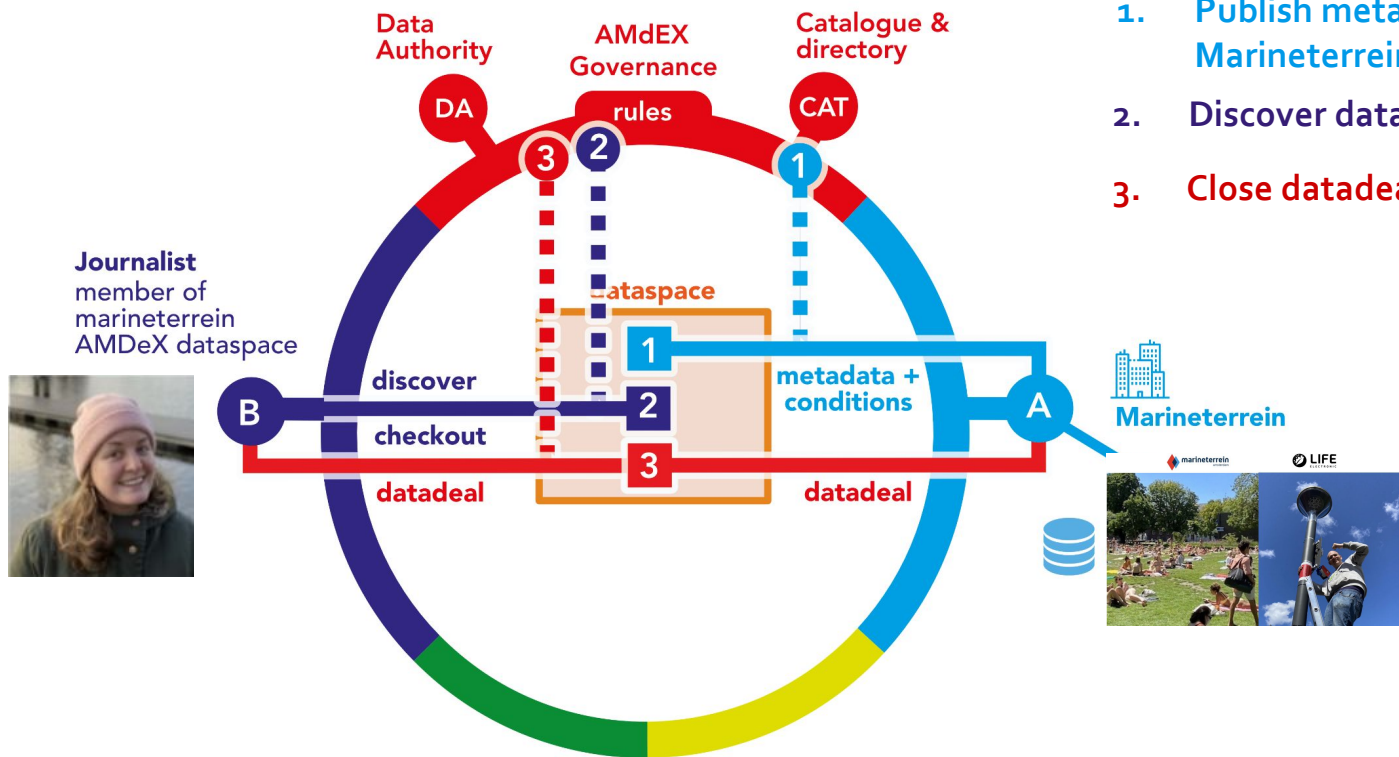


# The AMdEX trust grid for the use case





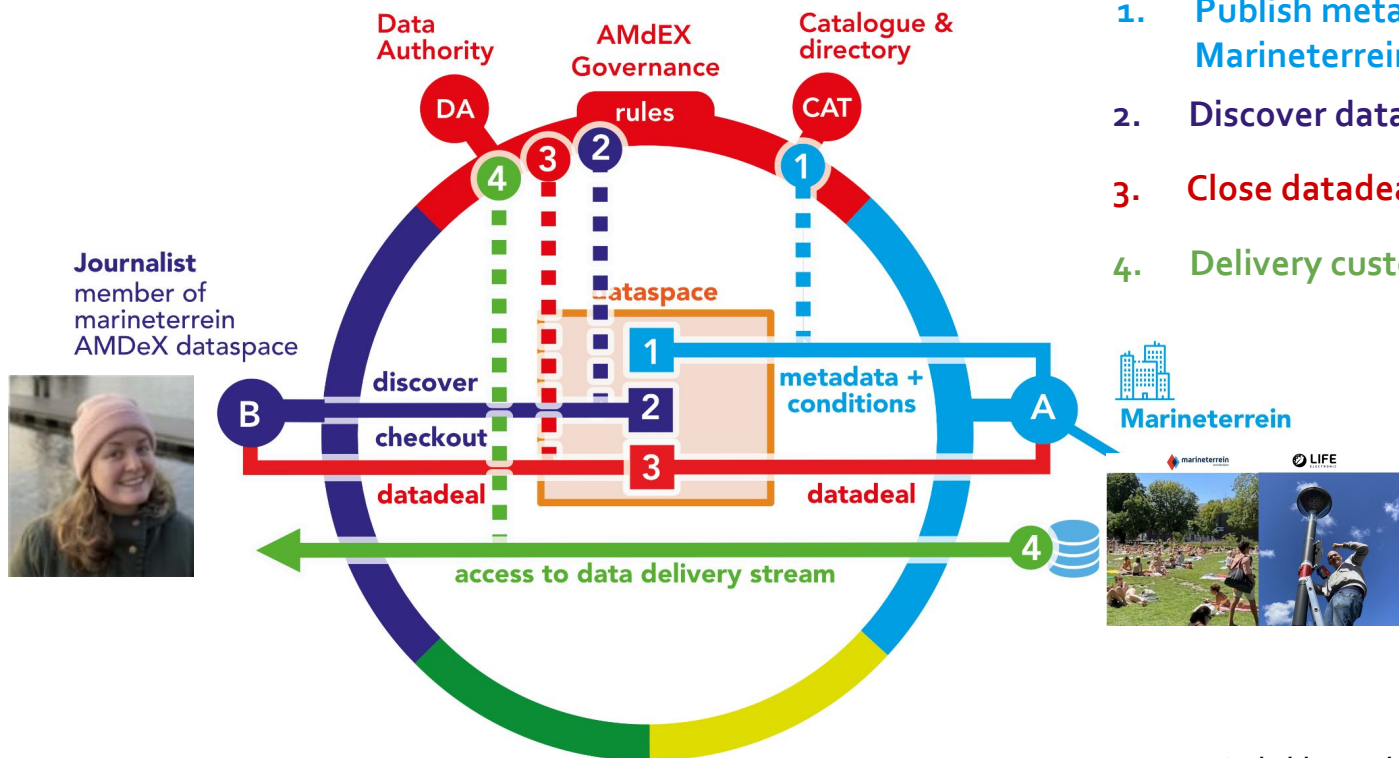
# The AMdEX trust grid for the use case



1. Publish metadata + conditions AMdEX / Marineterrein dataspace (owner)
2. Discover dataset + checkout (user)
3. Close datadeal agreement (both)



# The AMdEX trust grid for the use case



1. Publish metadata + conditions AMdEX / Marineterrein dataspace (owner)
2. Discover dataset + checkout (user)
3. Close datadeal agreement (both)
4. Delivery custom data package (both)



Solid based pods for user and owners!



# Challenges we face

- Data owners have difficulty setting conditions and licenses for their sensitive data
- Data is not “ready to be shared”
  - Data quality & standards
  - Metadata descriptions & context
  - Structure & semantics (scheme)





# Questions?

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