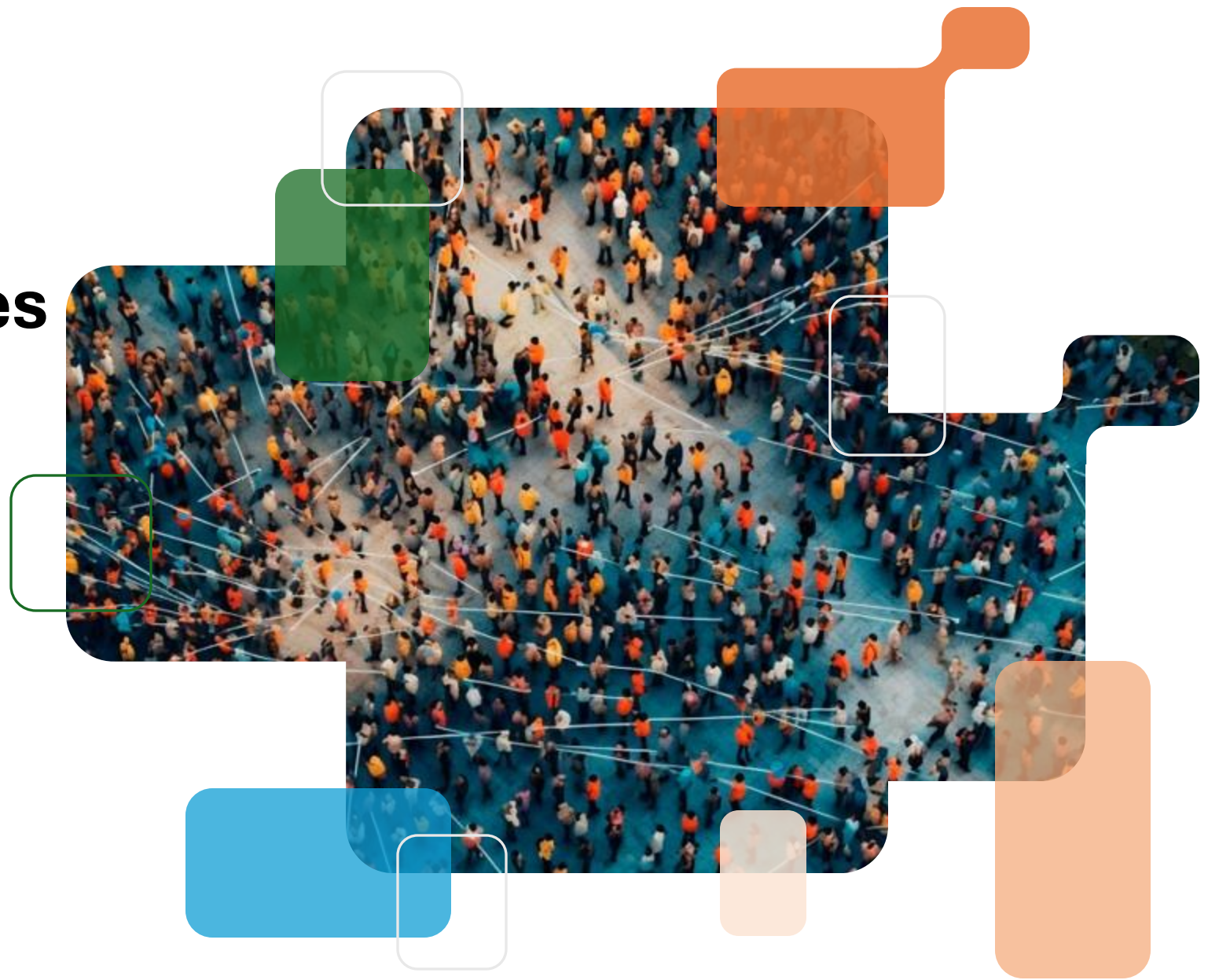


# Integrating Data Management Services with SURF Research Cloud using SRAM

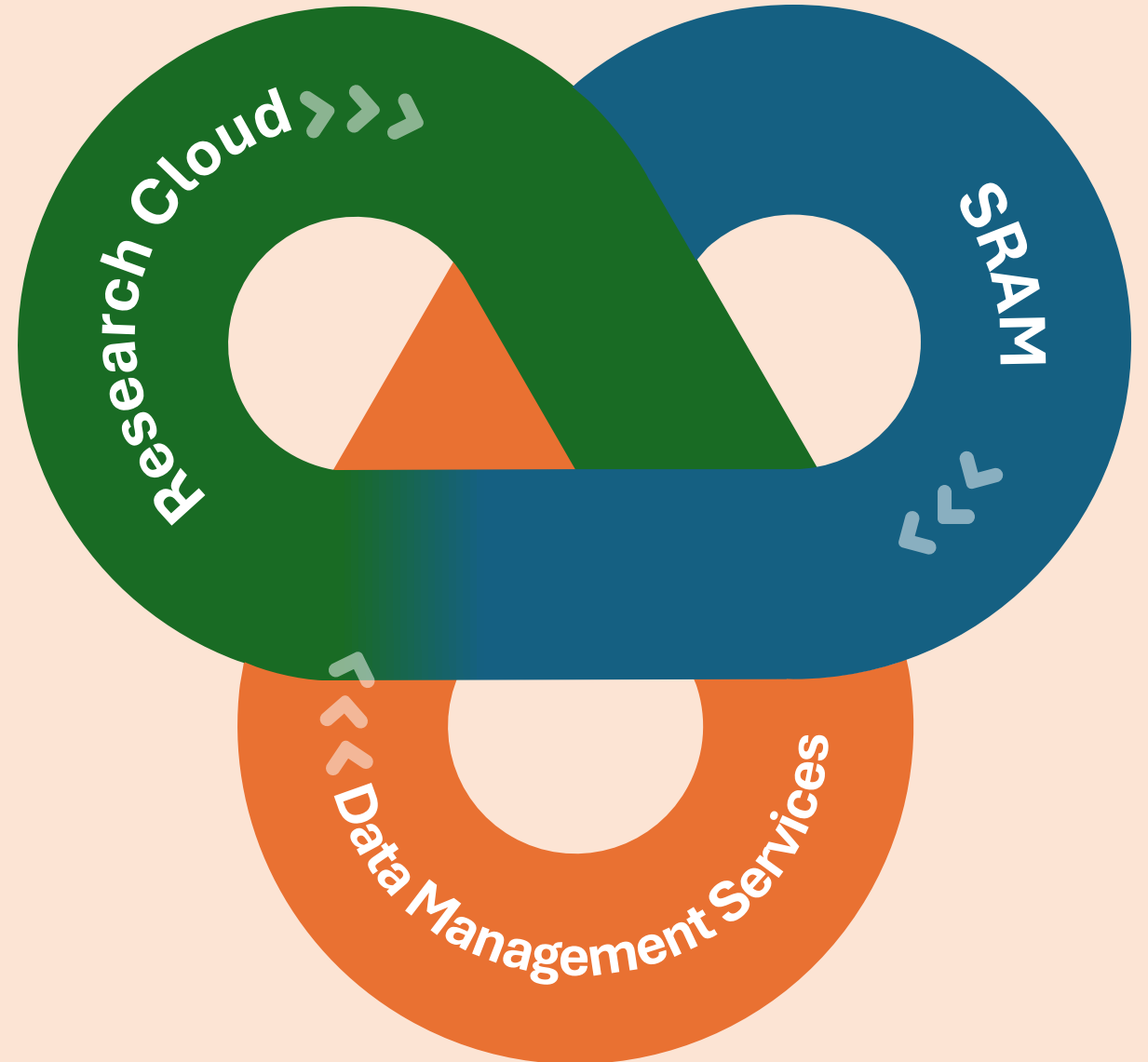
Maryam Soleimani Dodaran

12 December 2024

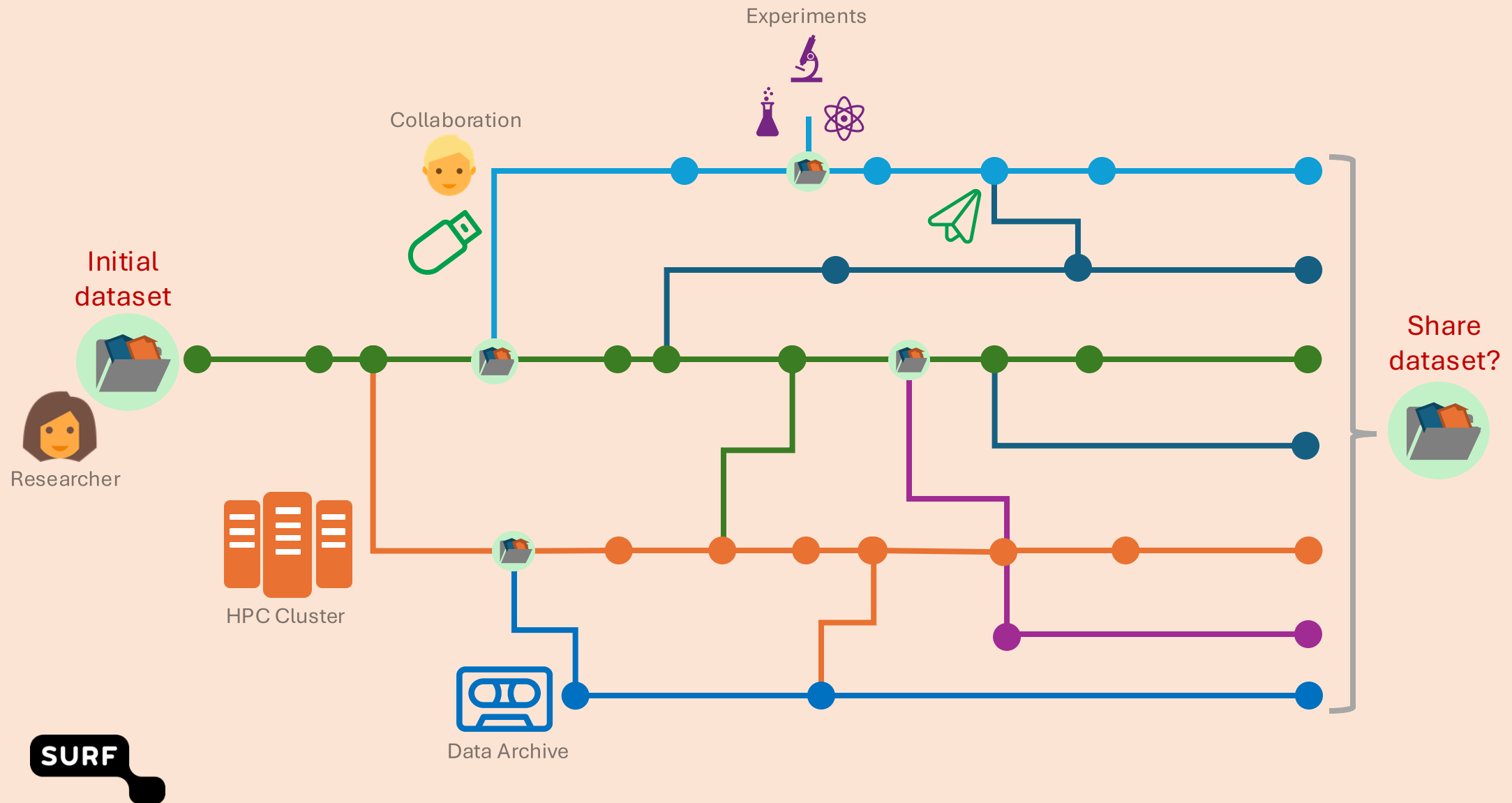
**SURF**



Collaborating effort  
to bring data to  
compute at SURF



# Data, what is the problem?



# em?

Experiments



Share  
dataset?



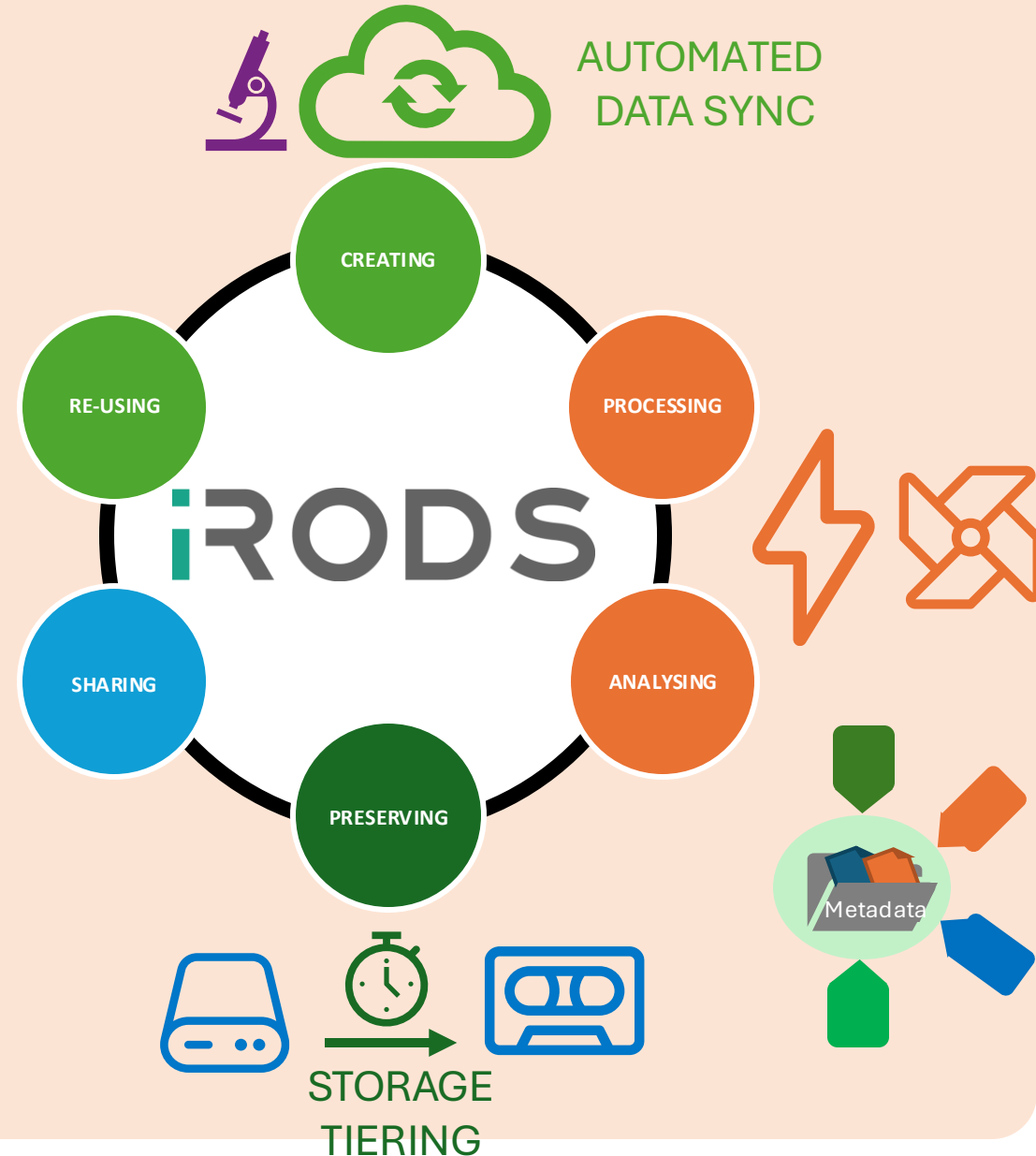
# RDM and Research LifeCycle

## MISSION



- Store data safely
- Know where it is saved
- Know how to access it
- Know who has access to it

SURF

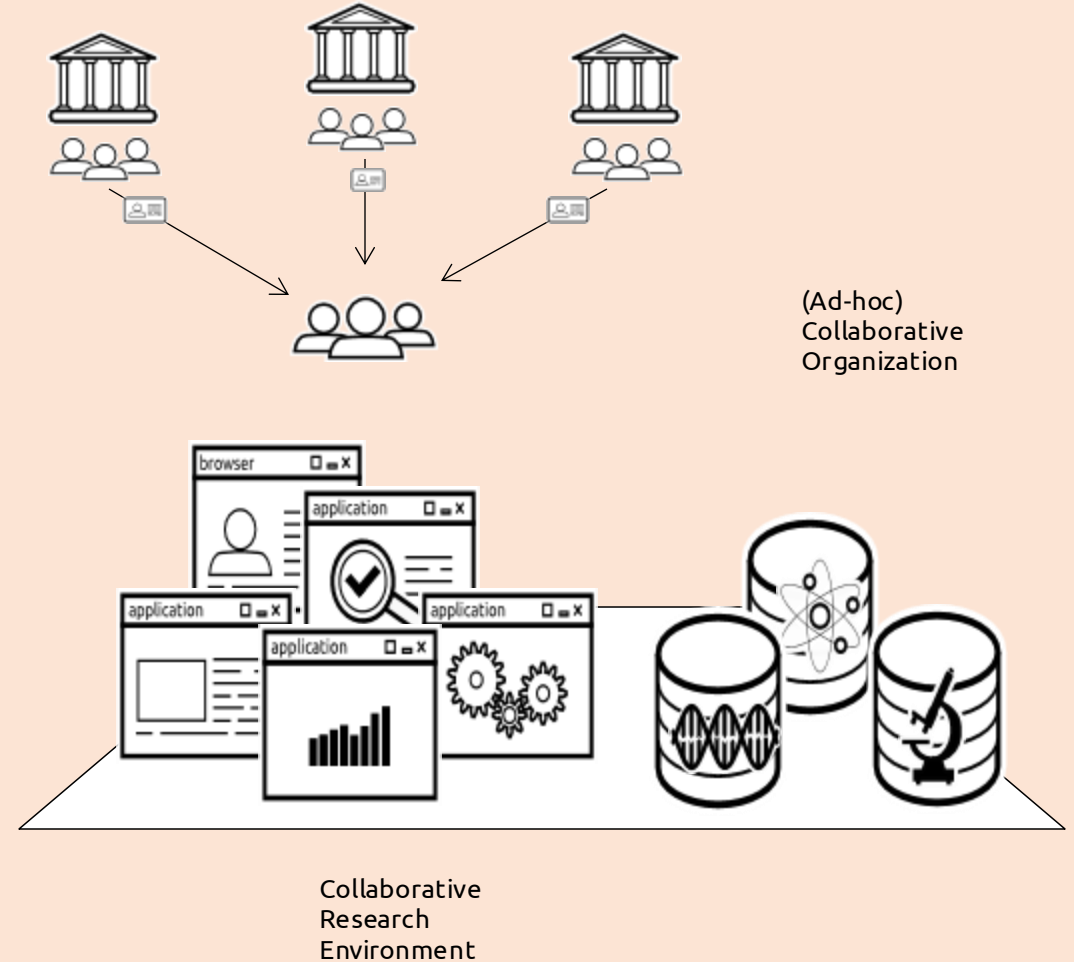


# SURF Research Cloud

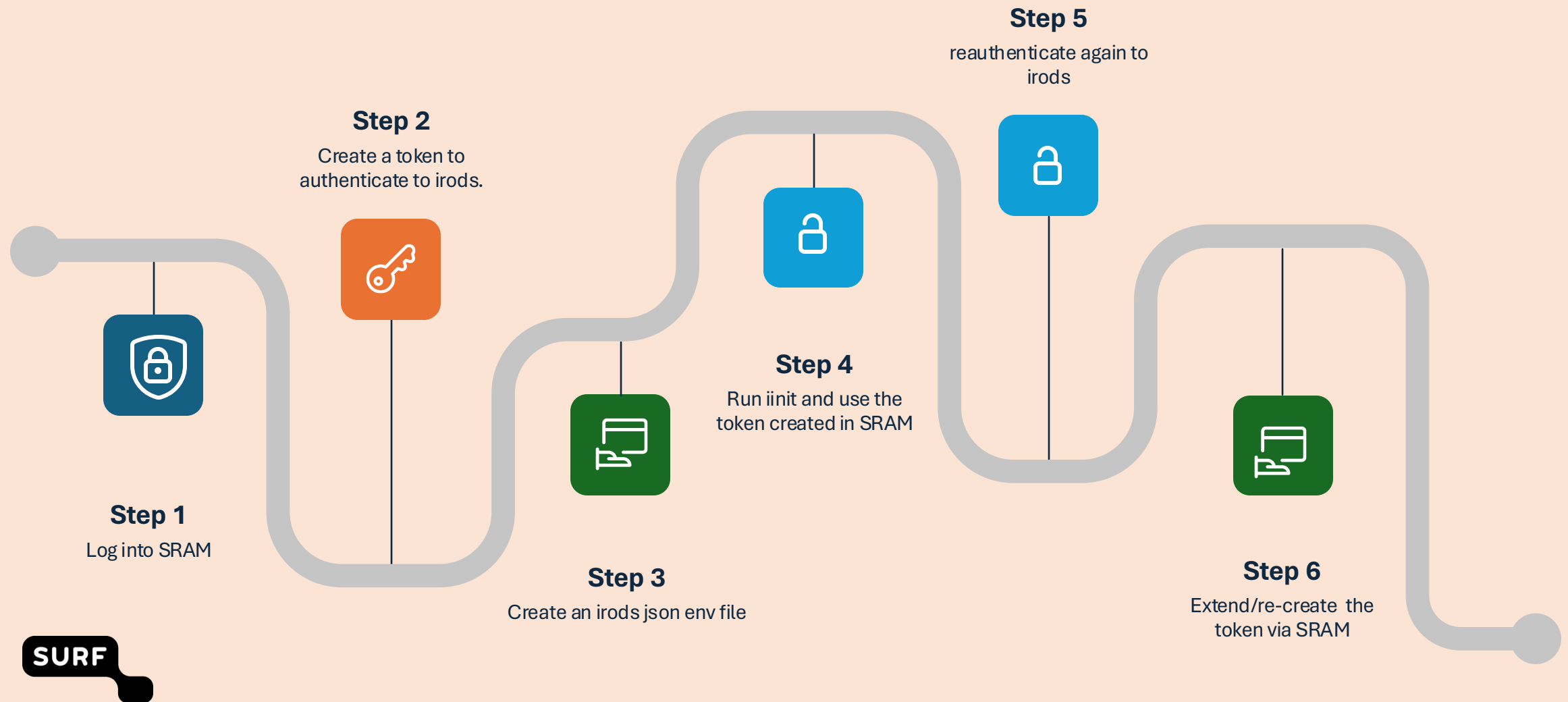
## MISSION

---

- Use preconfigured workspaces
- Use centralized user access management



# | Authentication Without Automation

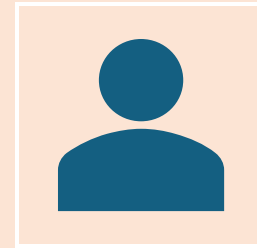


# | Automated integration process



## **User Selects the data service to integrate within collaborative organisation**

All VMs created in that C.O. will have the RDM integrated to the VM.



## **User authenticates to SRAM**

This step gives permission to SRAM to communicate the access token to SRC on behalf of the user in order to authenticate to iRODS and mount davrods on user VRE



# | Data to Compute Challenges Solved by iRODS



## 1. Data Management:

### **Unified storage of disk and tape:**

User is agnostic to the infrastructure for data storage.

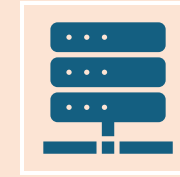
### **Metadata Availability**



## 2. Secure Collaboration

### **Data Access policies:**

data is transferred alongside access policies.

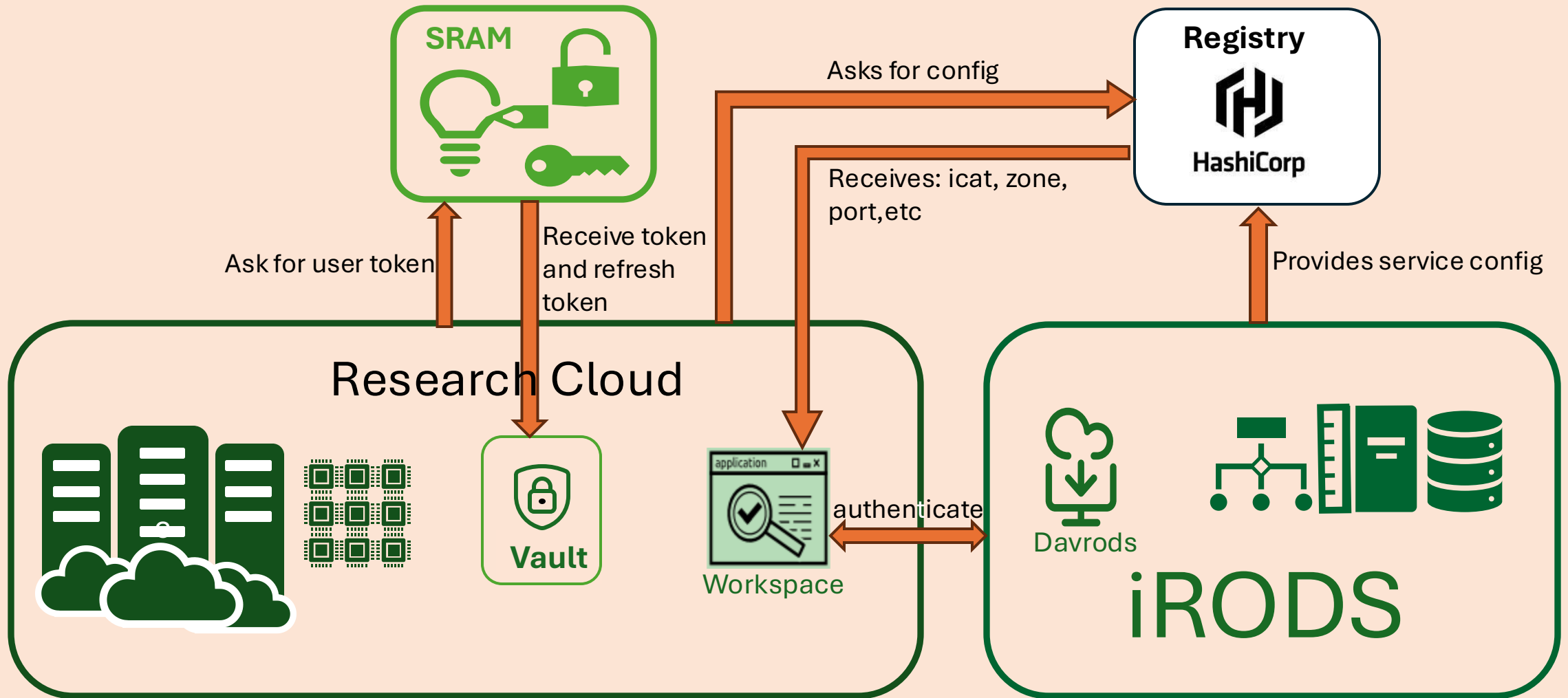


## 3. Interoperability

### **Heterogeneous Systems:**

iRODS enables the user to share data among heterogeneous systems.

# Hidden Steps in Integrating RDM with VRE



# Summary

- Automated integration
  - Hiding the integration process.
  - Providing access to data in seamless manner.
  - Providing irods in every catalog item in research cloud.
- Use of irods to support FAIR principles.
  - Access management via SRAM
  - Abstracting resources
  - Accessible metadata
  - Procedures and pipelines
  - Interoperable environment

# Acknowledgement



Behnaz Moradabadi  
Lead Python Developer  
SURF Reasrch Cloud



Harry Kodden  
Senior Software Engineer  
SURF Research Access  
Management



Claudio Cacciari  
Data Management Advisor  
Data Management Services



**SURF**

• **Thank you!**