Role of the SLU / State of the Showcases

CodeJam 12: Session 5 – Workflows

Wouter Klijn

Role of the SLU / State of the Showcases

- Challenge and scope
- Abstraction
- applying the abstraction to Showcase 1a
- Summary
- Status showcases in EBRAINS

Challenge and scope

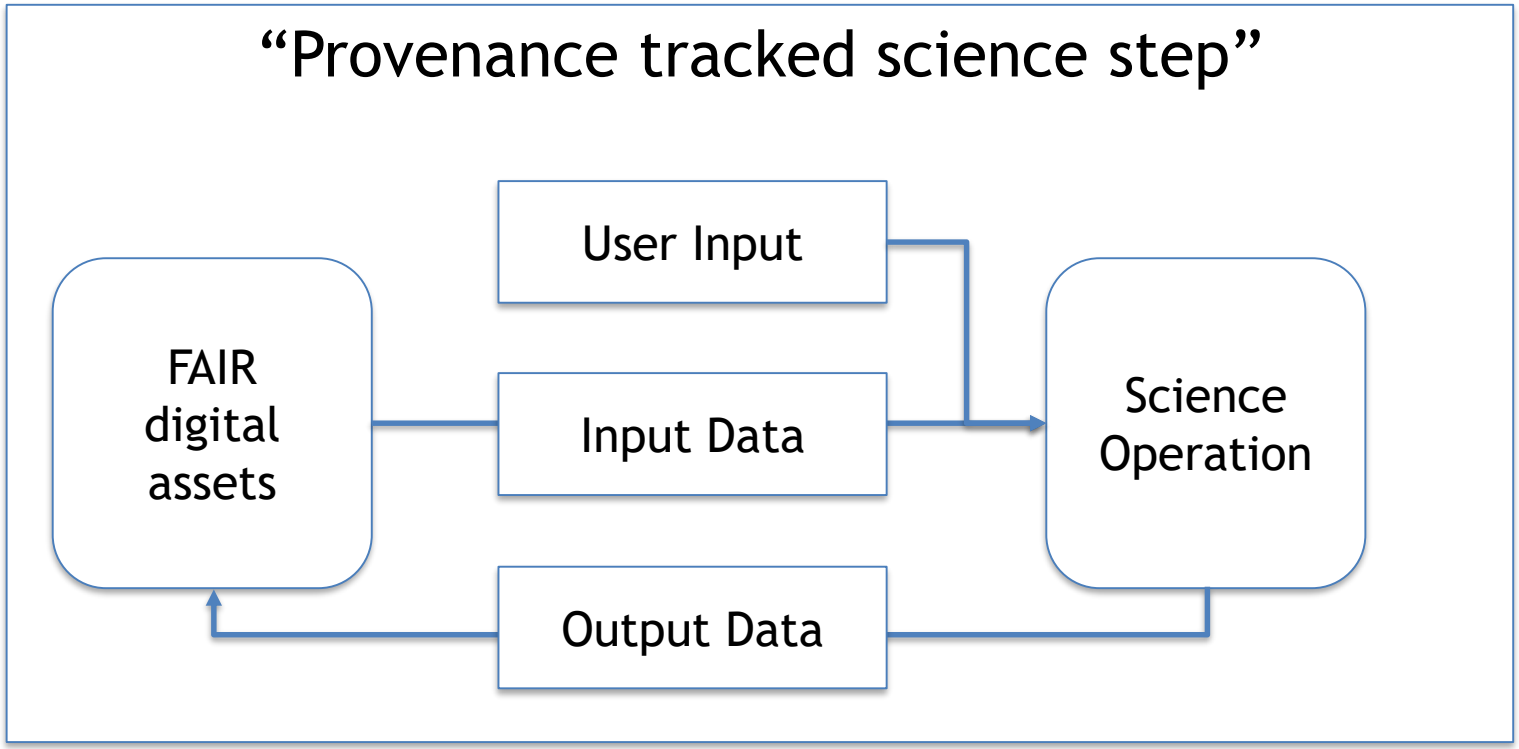
- EBRAINS is a diverse set of data, tools and services
- FAIR digital assets
  - Findability
  - Accessibility
  - Interoperability
  - Reuse
- Provenance tracking produces FAIR assets
- The showcases are science workflows using EBRAINS
  - SLU challenge: How to make these FAIR?

Important!

This presentation and approach introduced

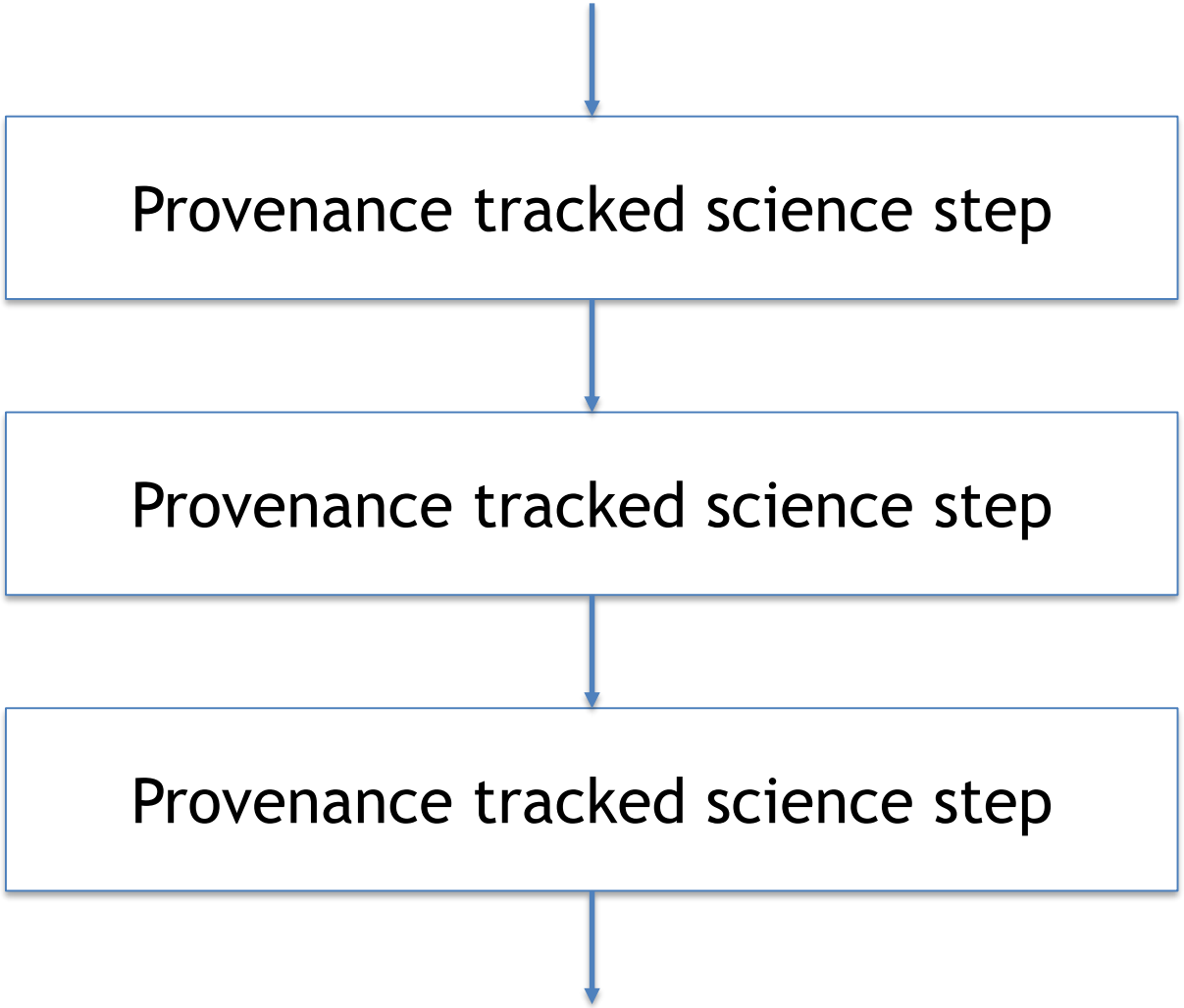
does not cover all science in HBP / EBRAINS

An Abstraction

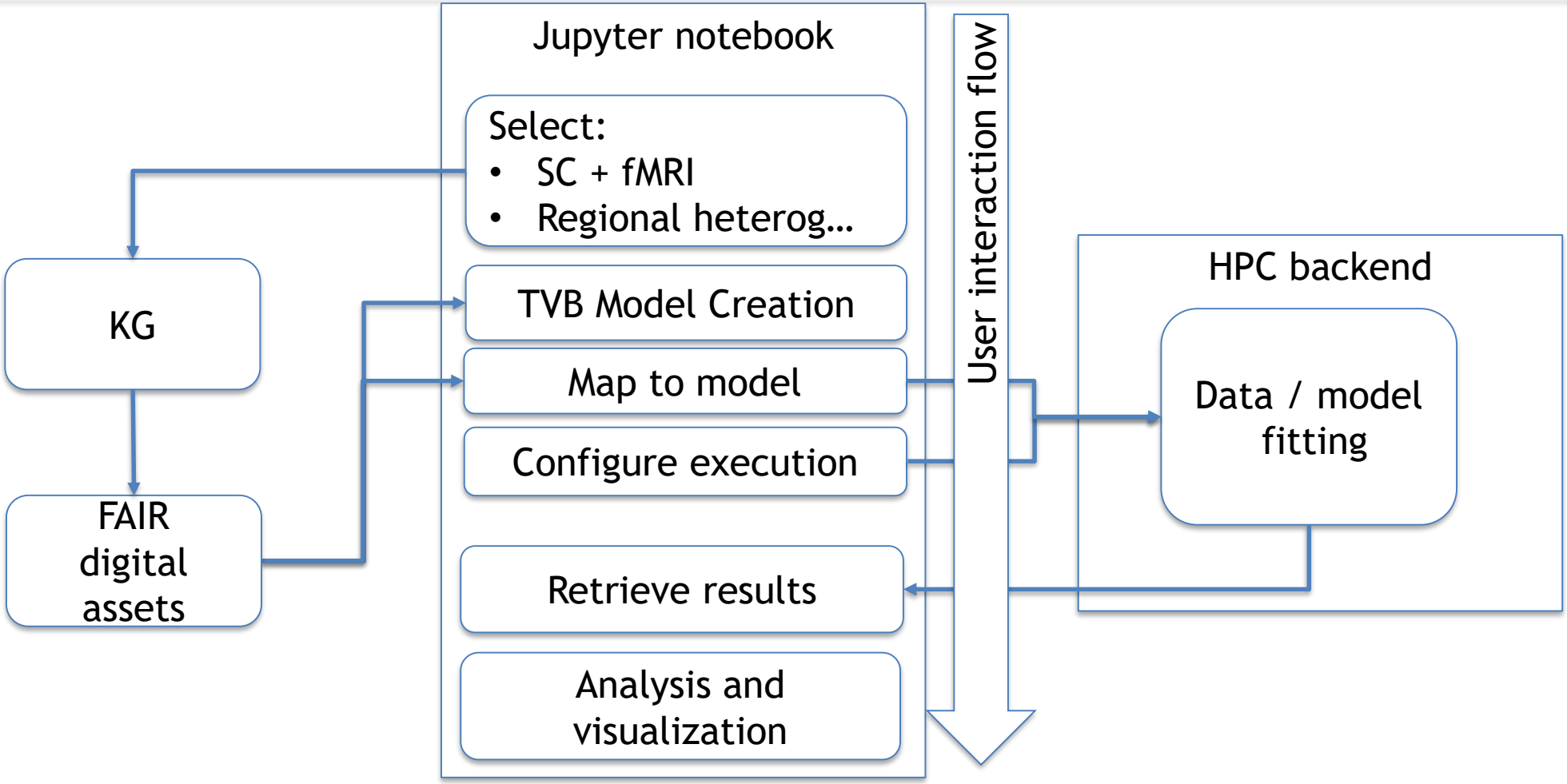


Question: Where do Jupyter notebooks fall in this picture?

FAIR science workflow



SC 1a: Degeneracy in neuroscience – when is Big Data big enough?



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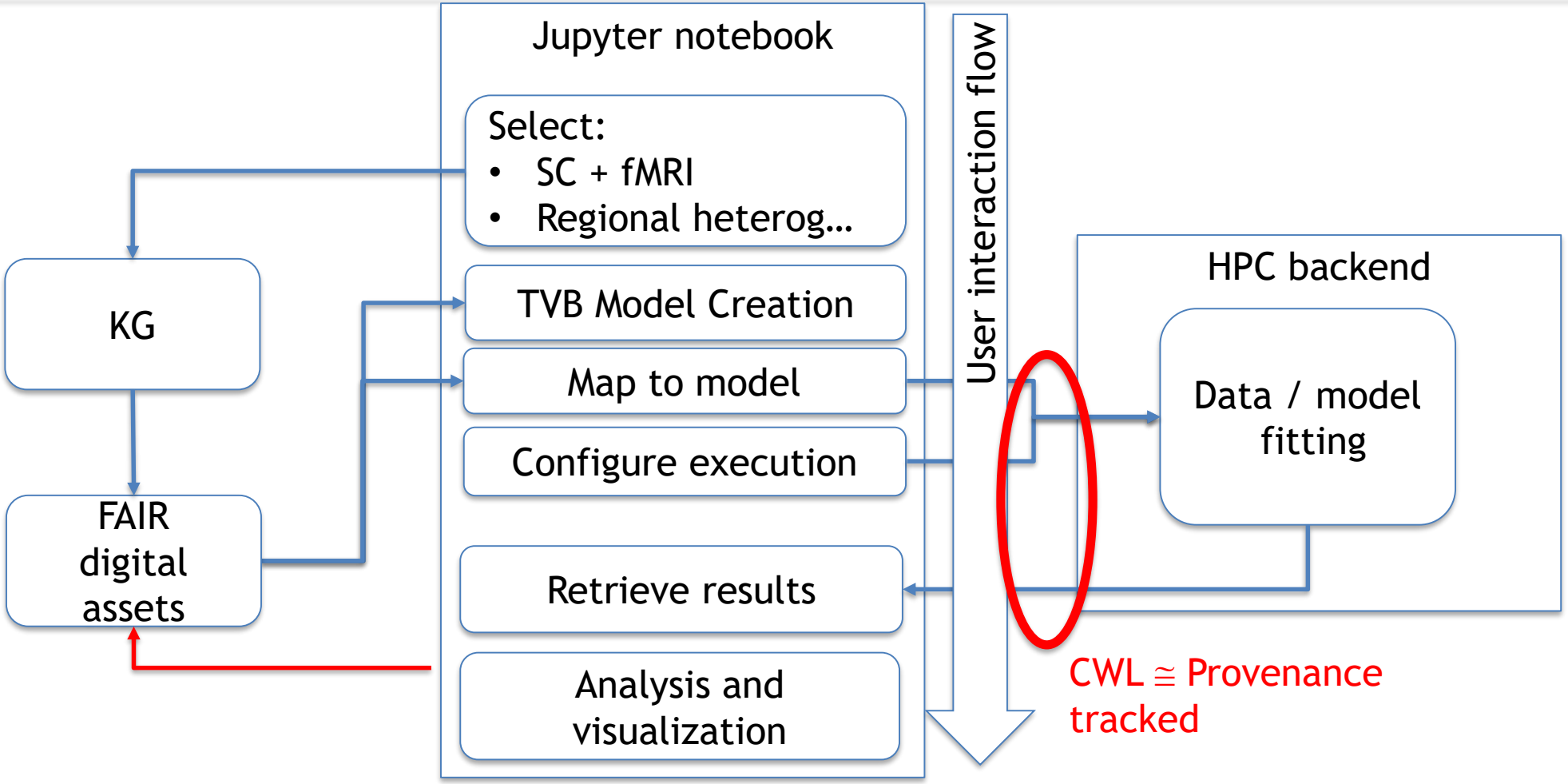

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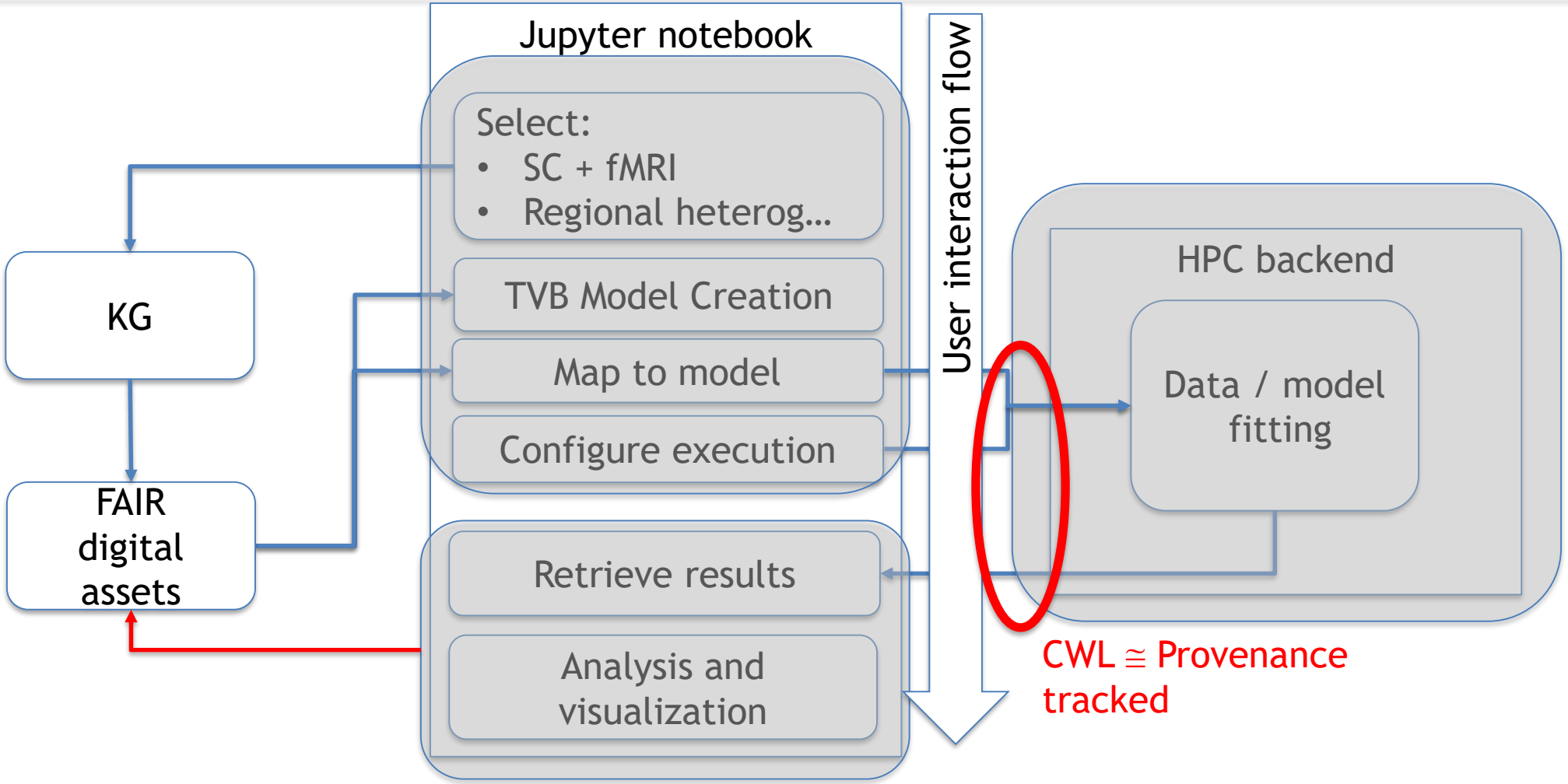

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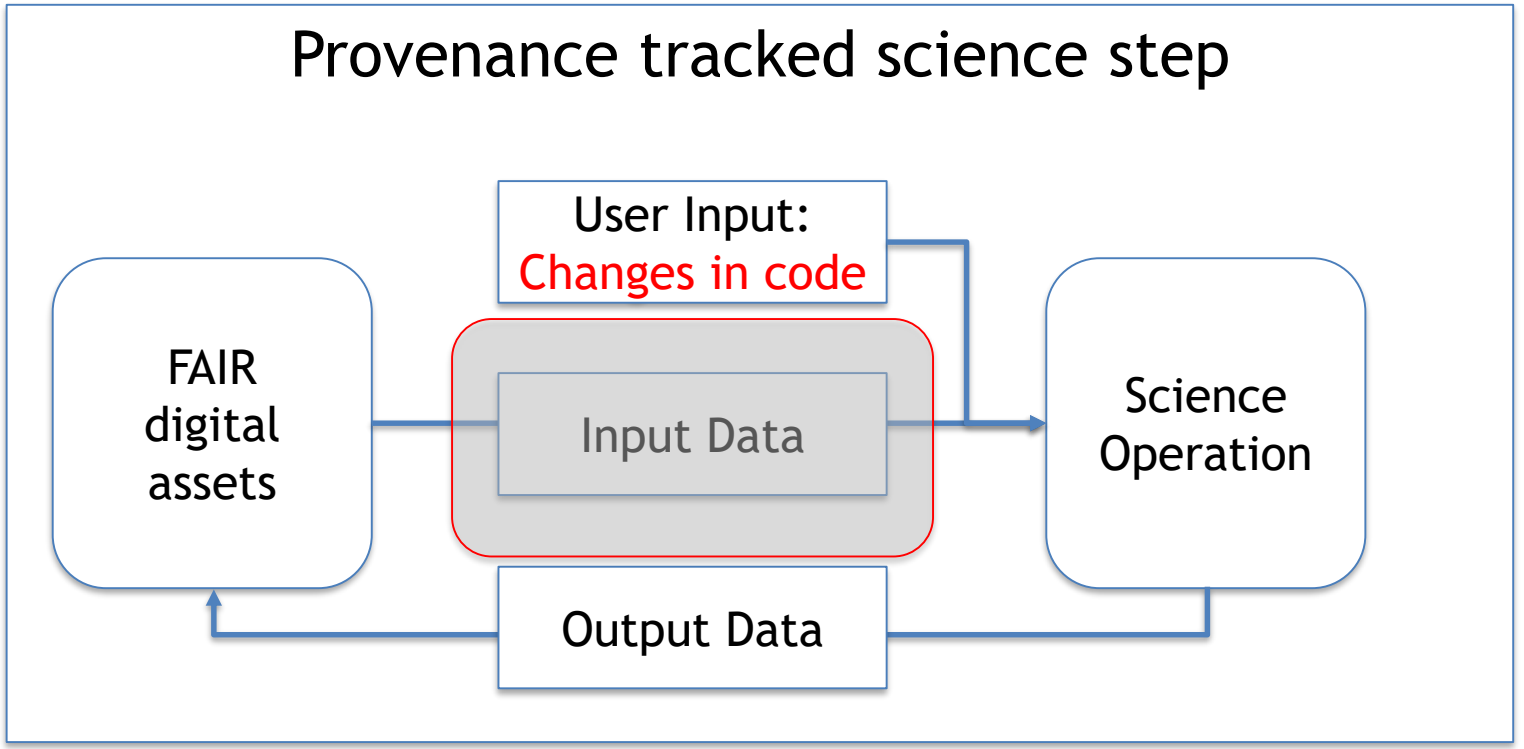

Jupyter notebooks as input data?

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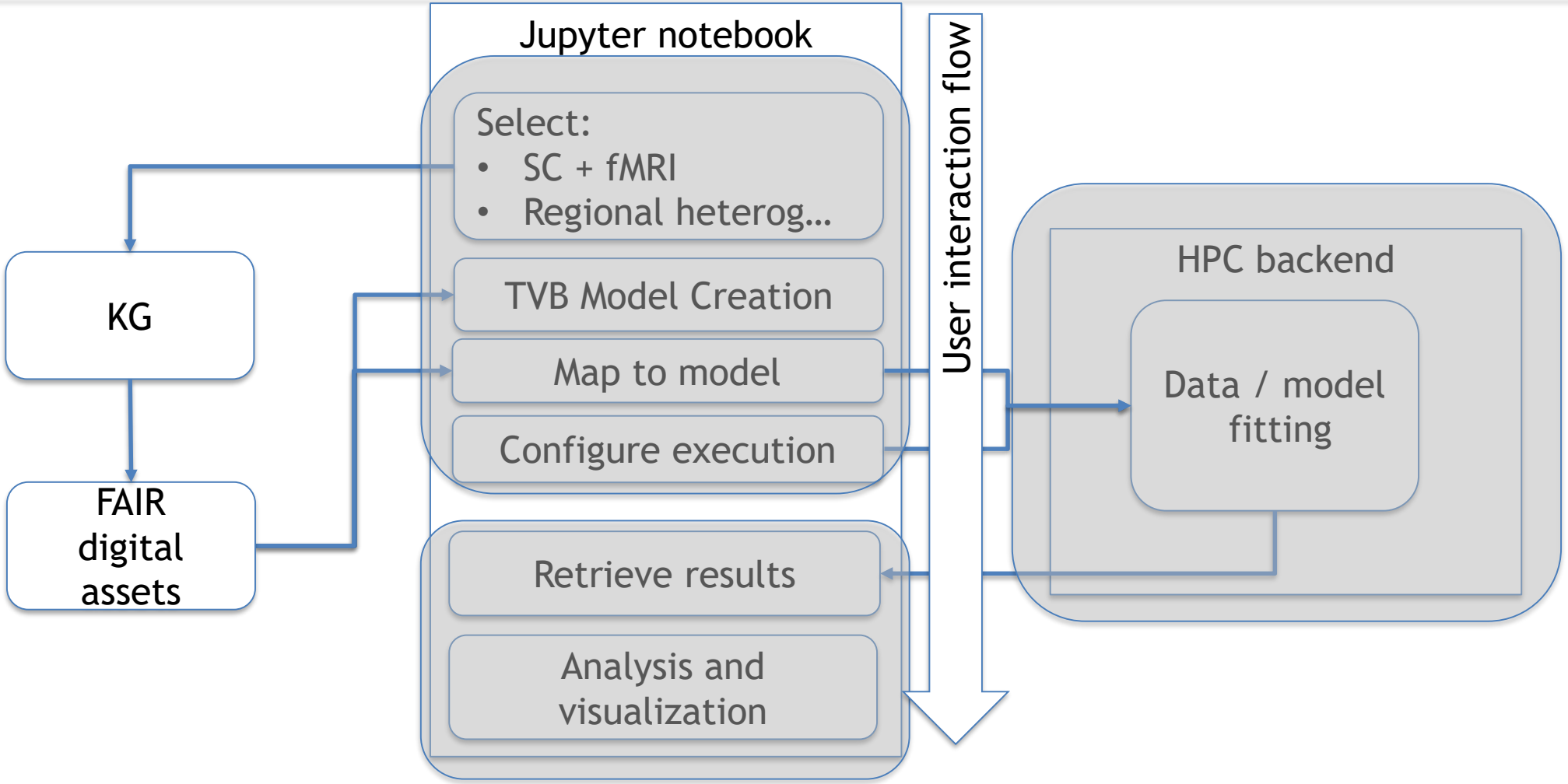

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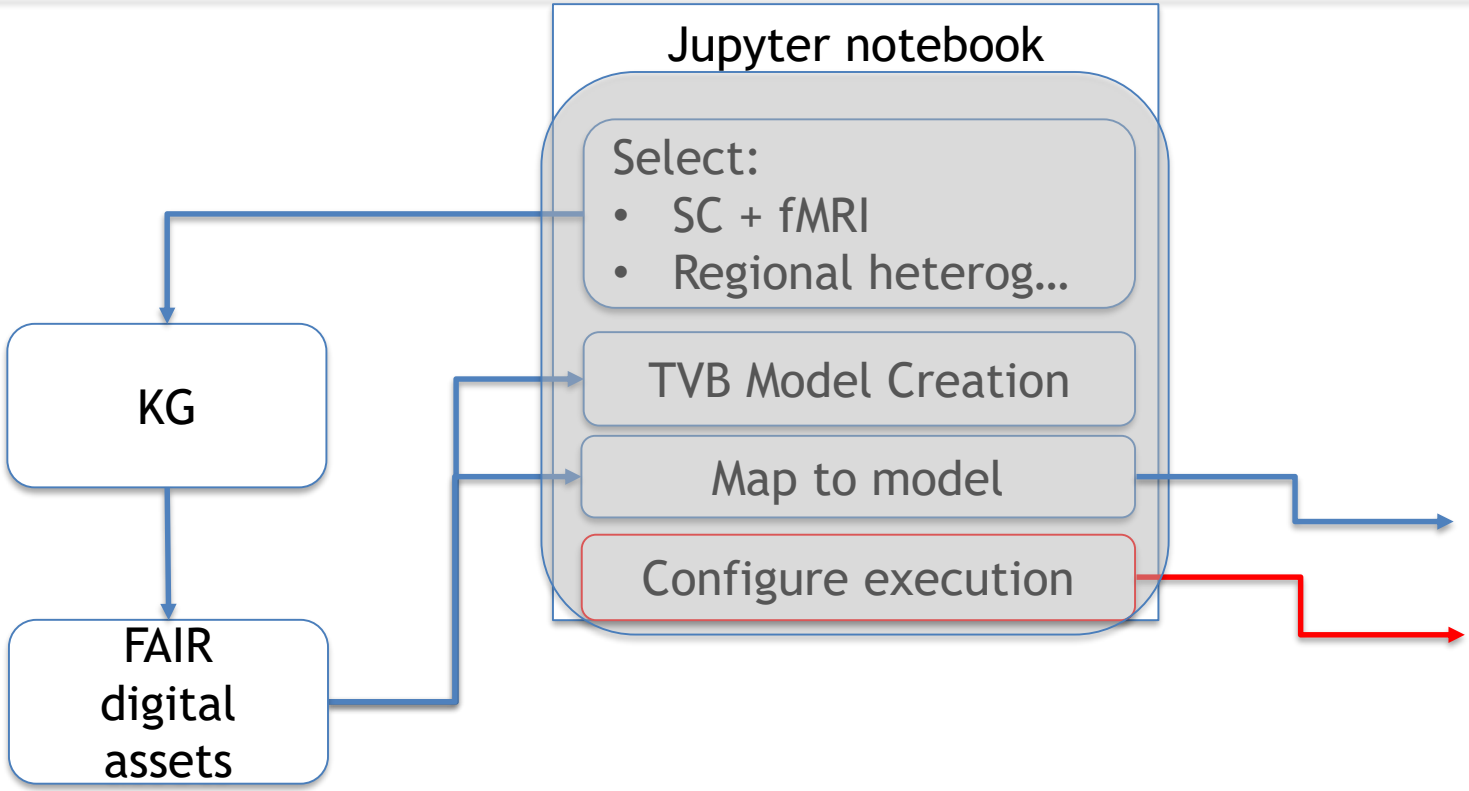

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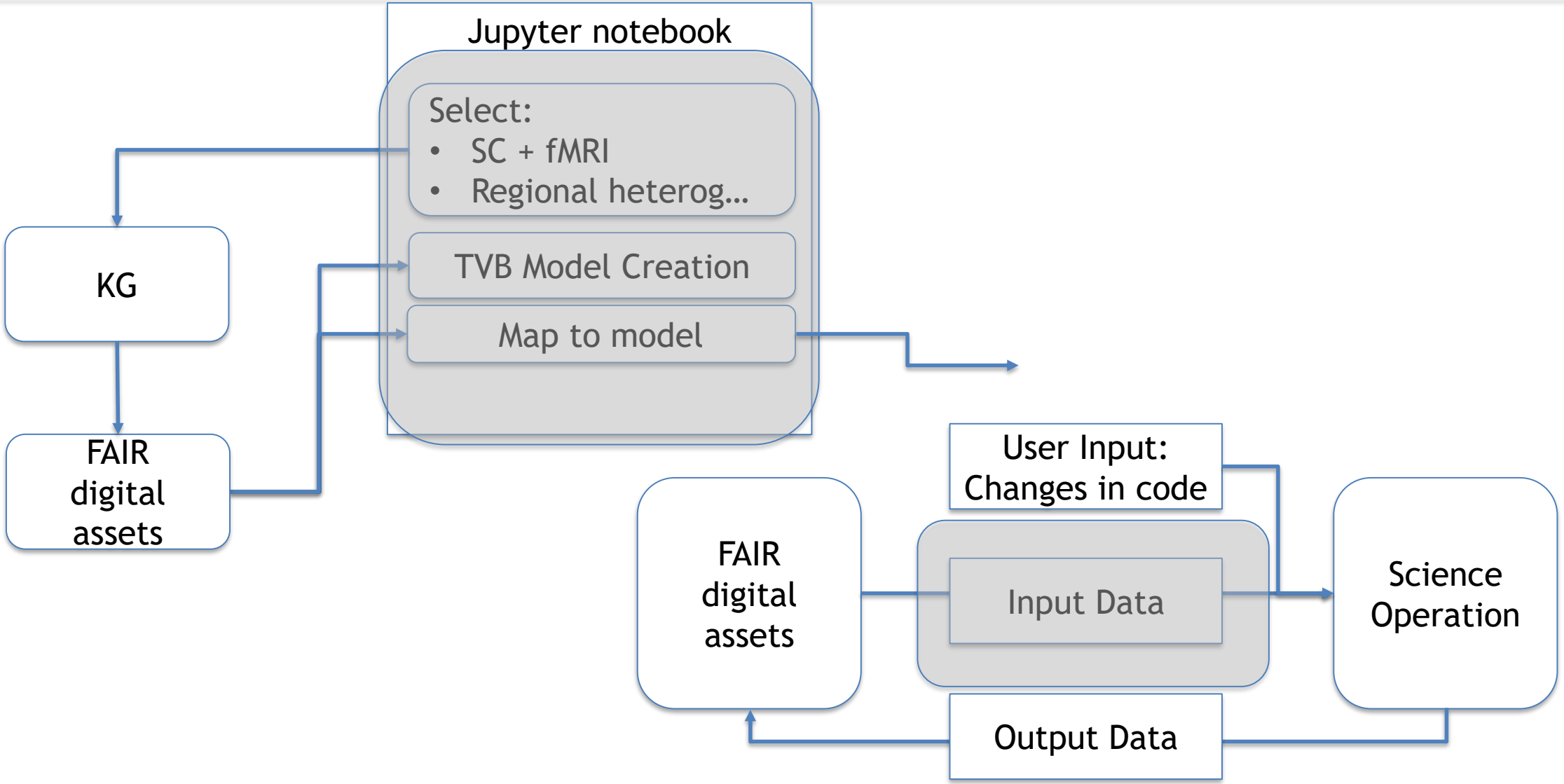

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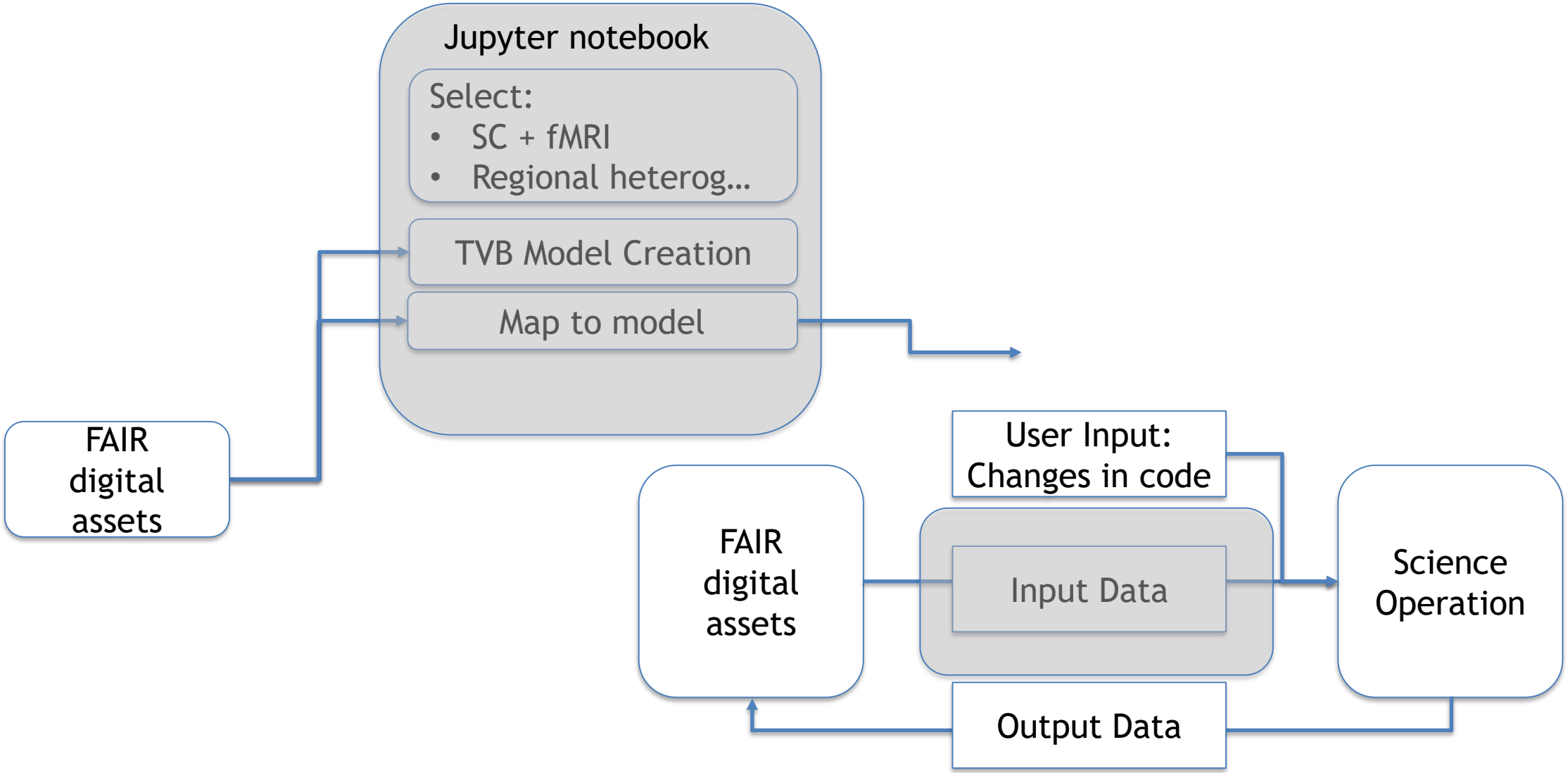

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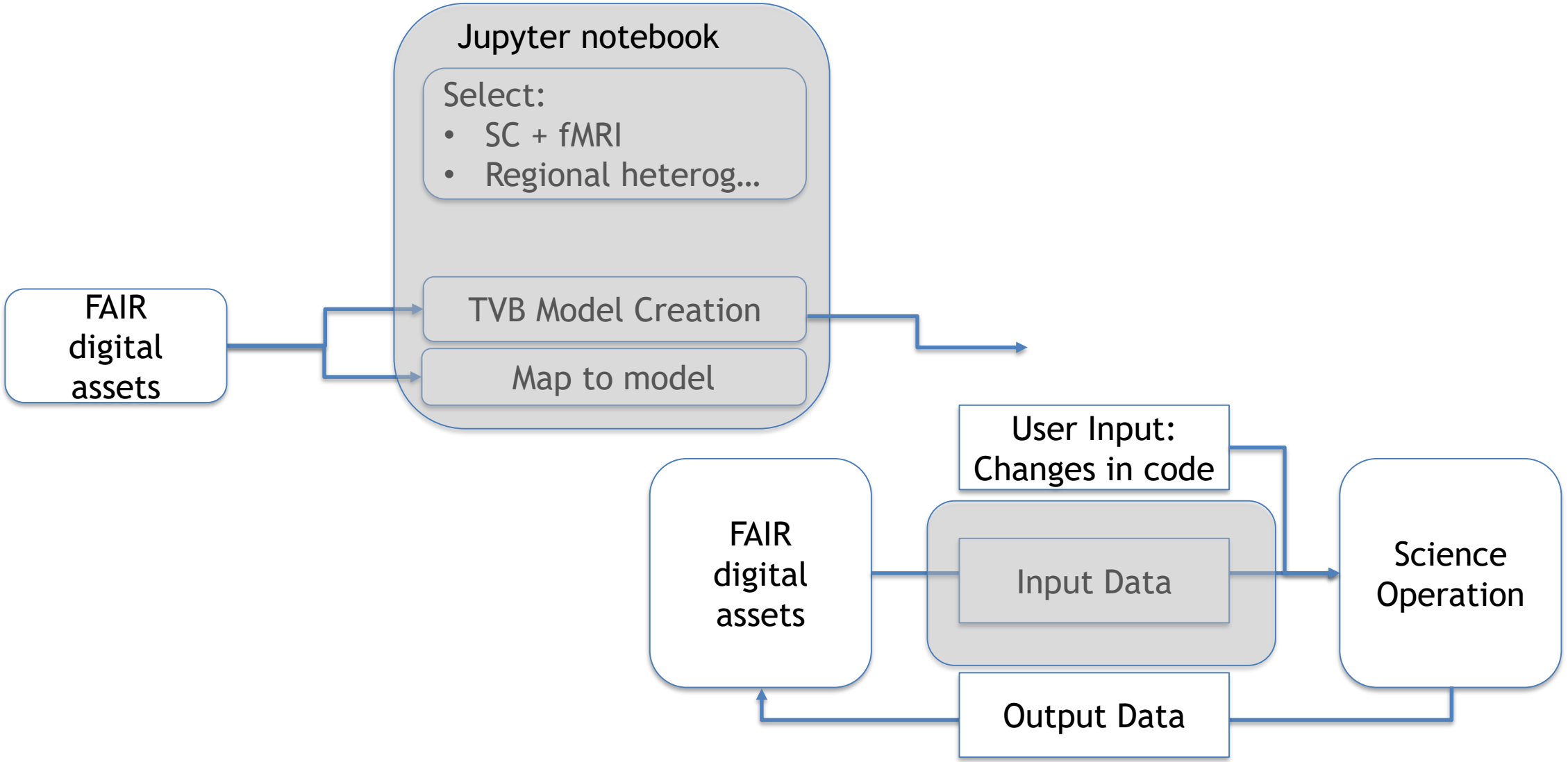

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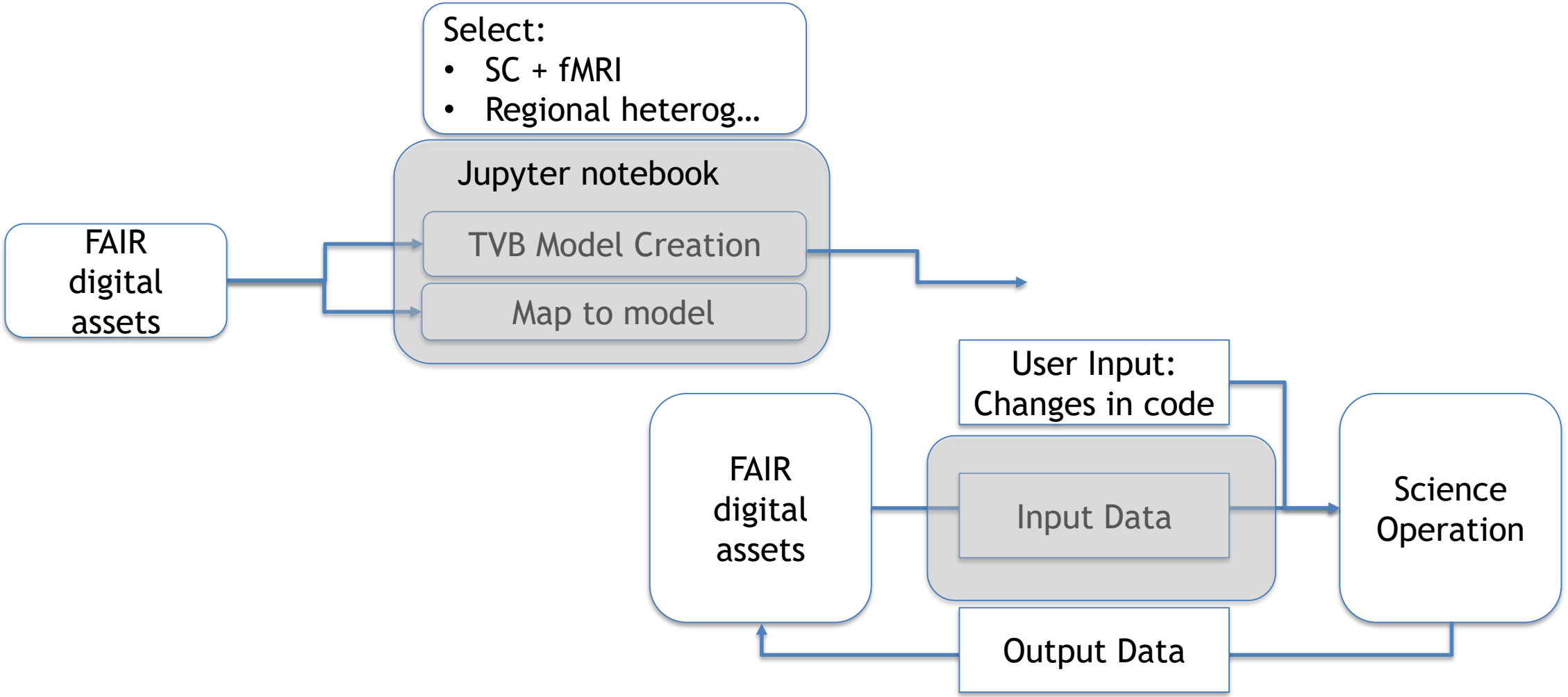

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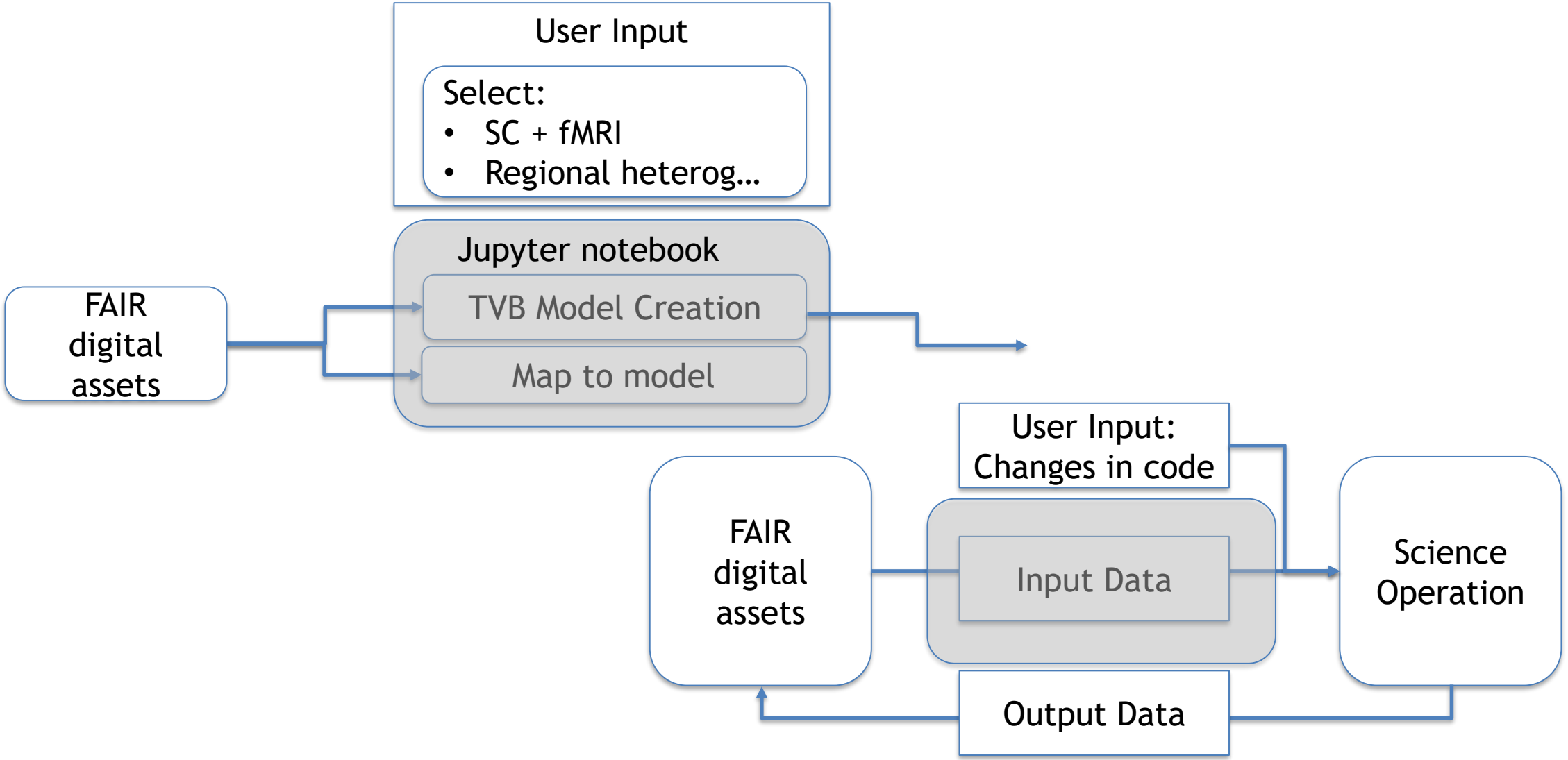

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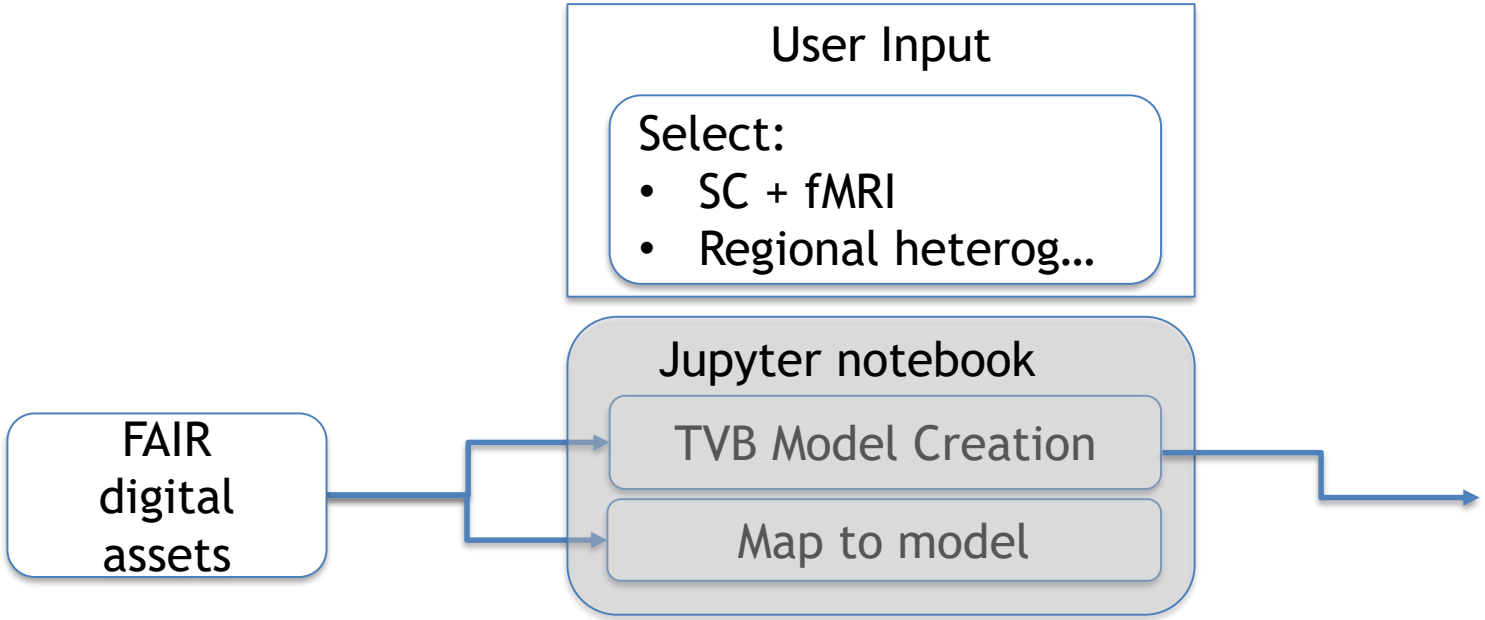

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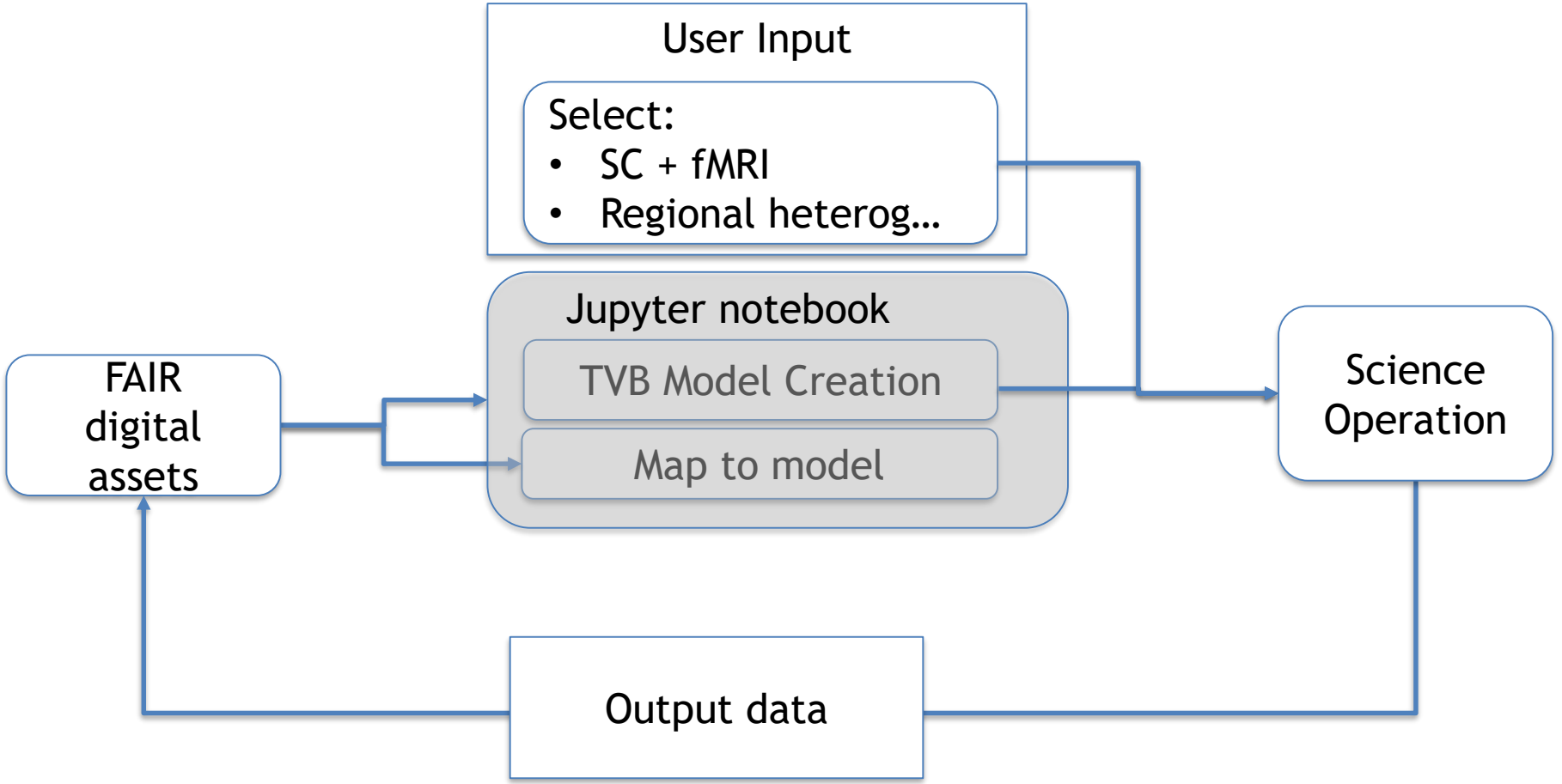

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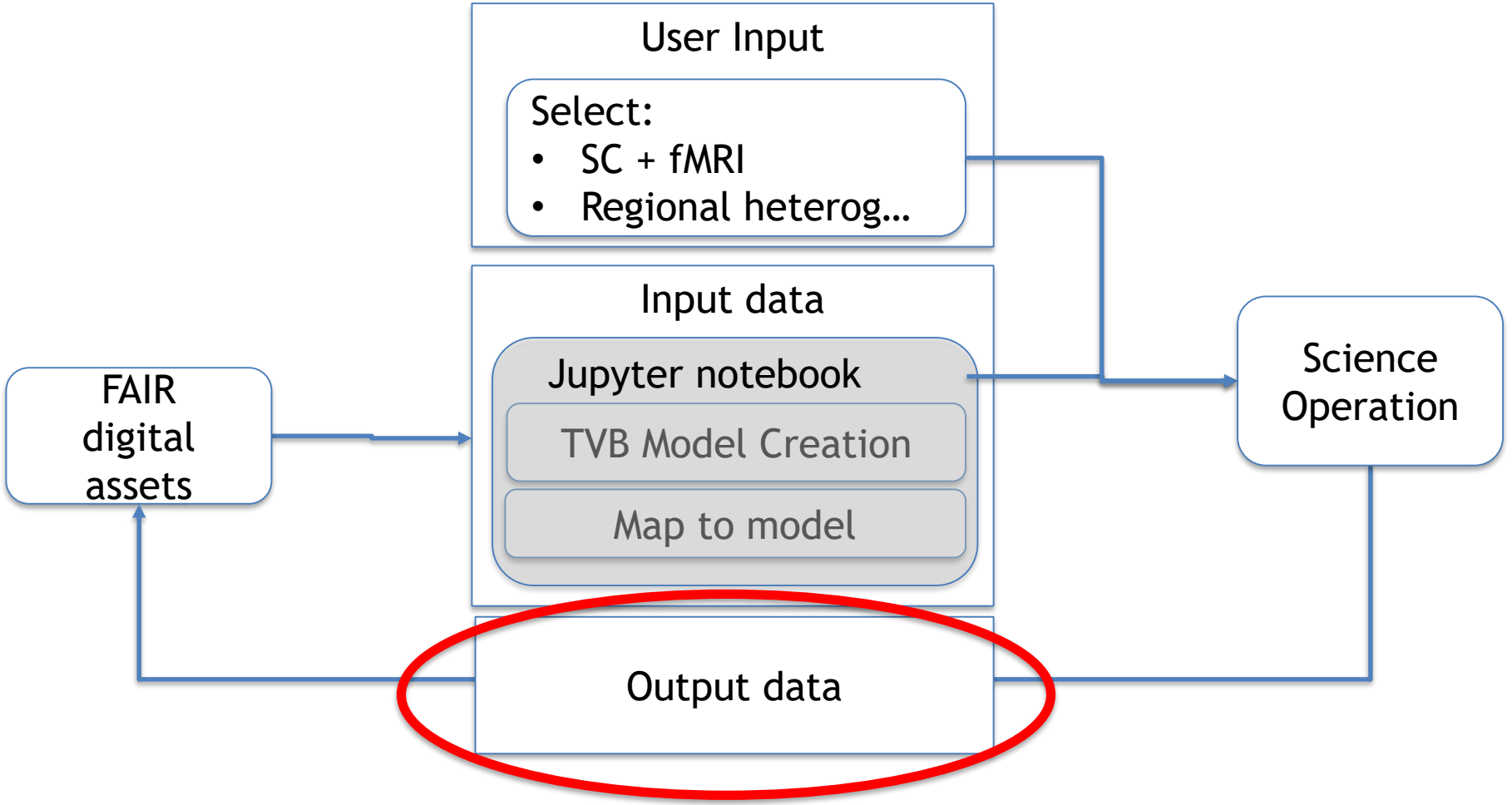

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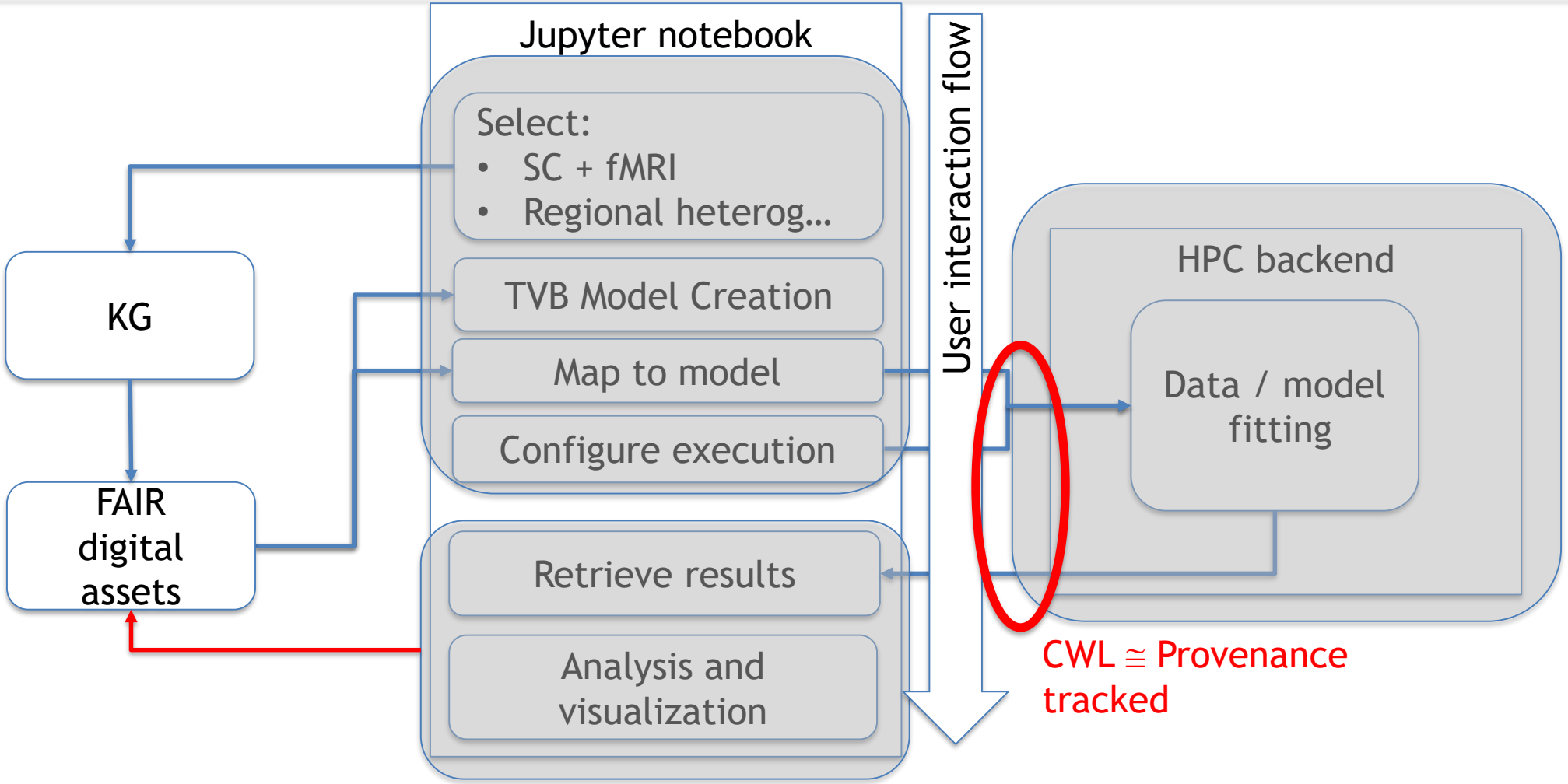
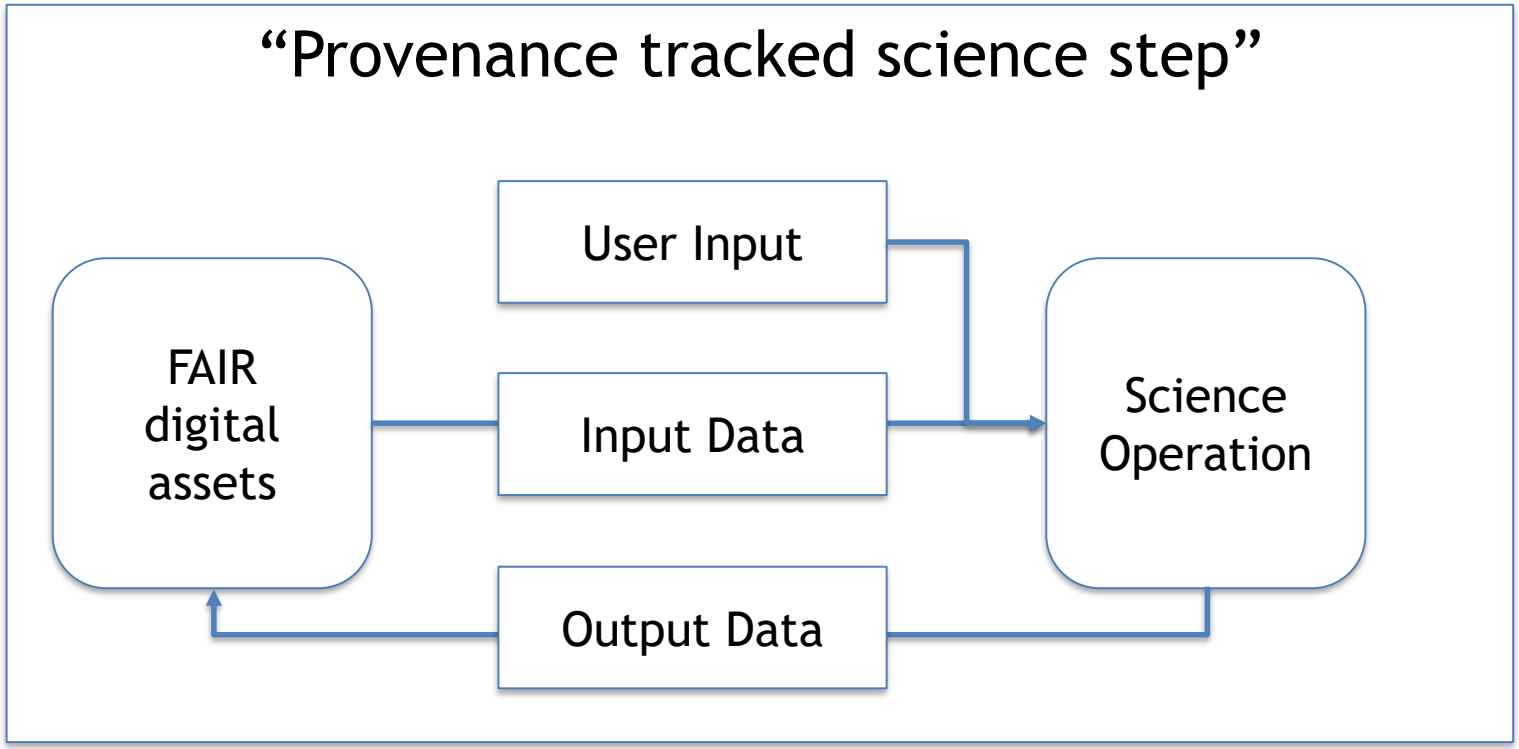
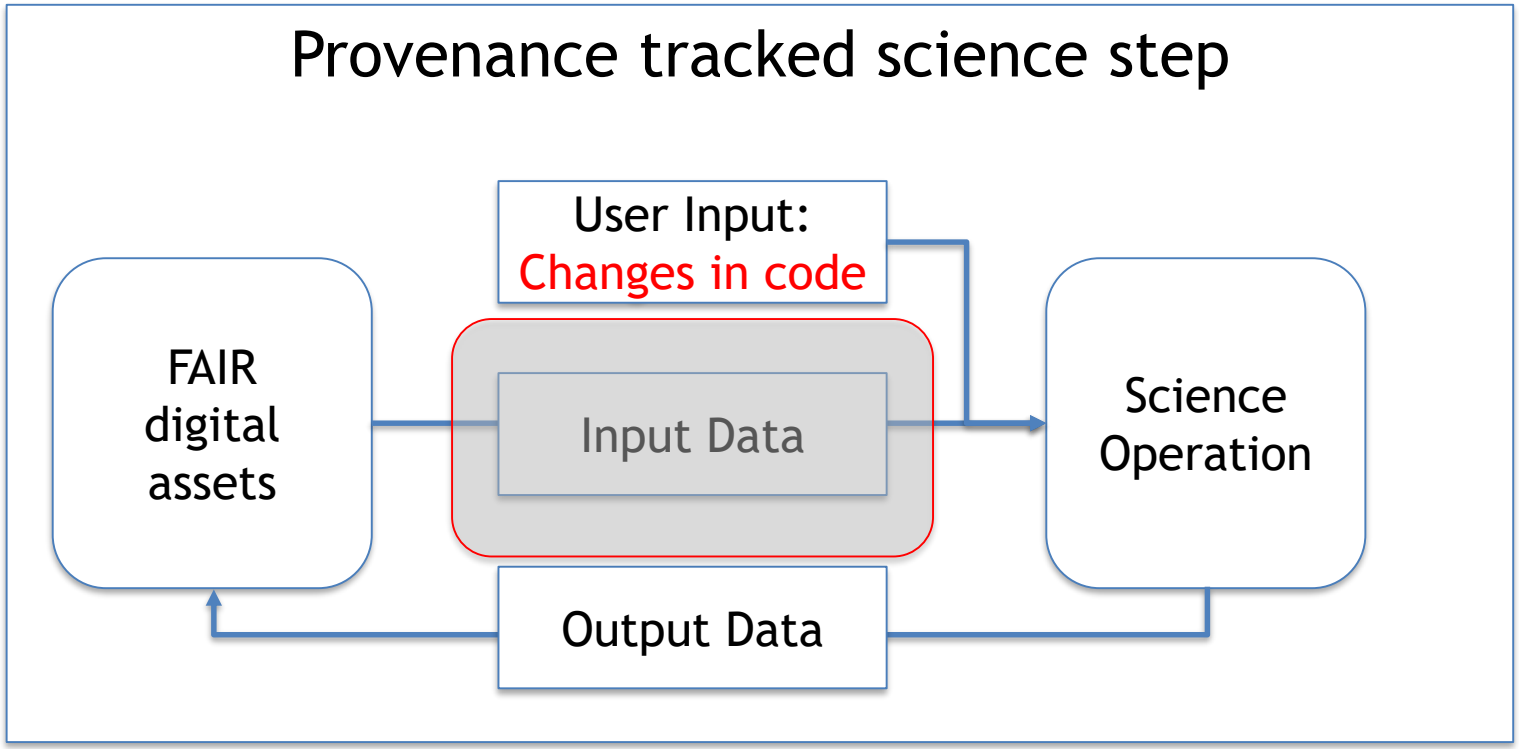


Summary

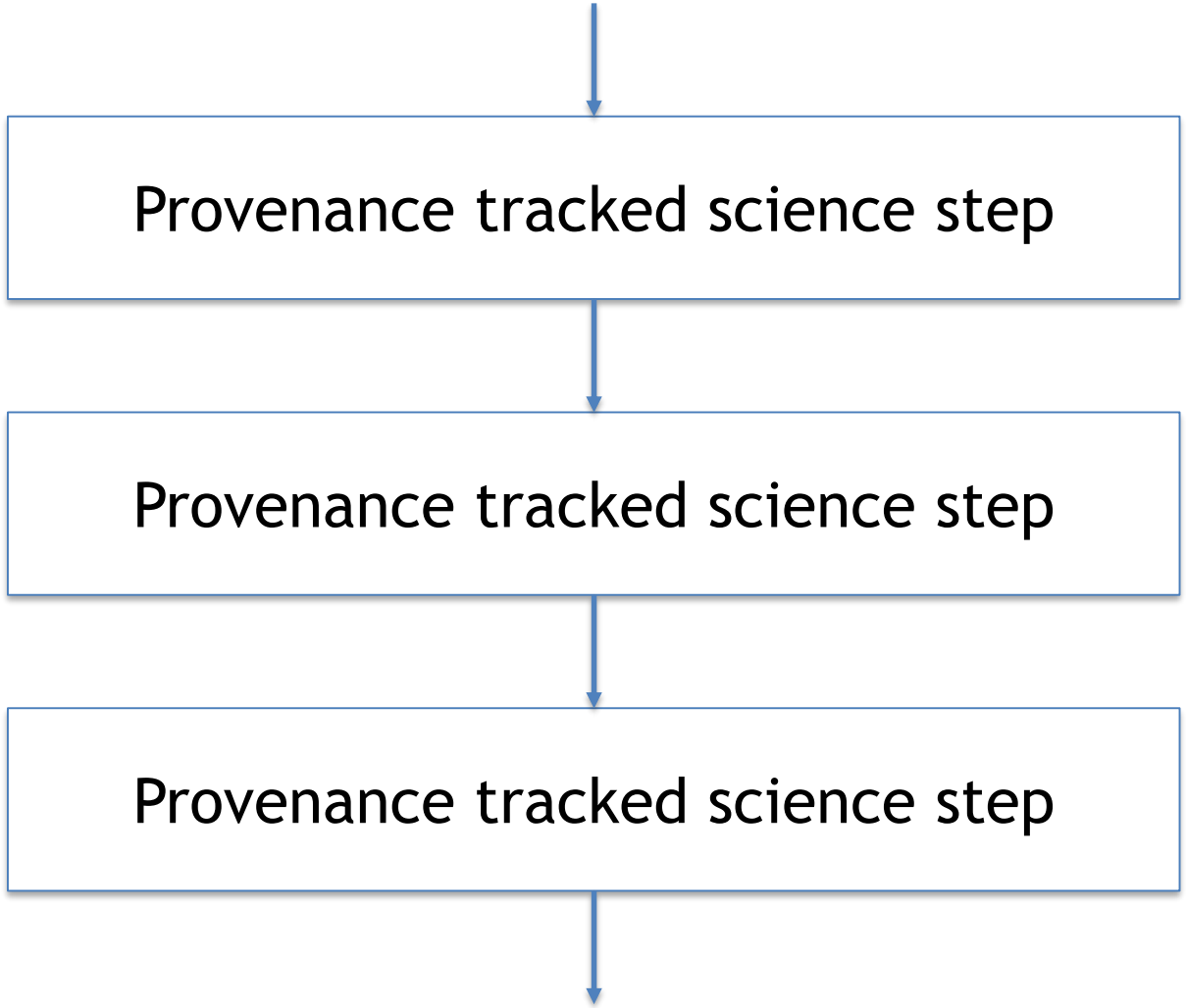

“Provenance tracked science step”
User Input
FAIR digital assets
Input Data
Science Operation
Output Data

Summary



Jupyter notebooks as input data

Summary: FAIR science workflow



Current state showcases

- In the process of transforming the science into FAIR workflows
- Aiming for a full FAIR workflow by end SGA3
  - SC1: Degeneracy in neuroscience – when is Big Data big enough
  - SC2: Improving epilepsy surgery with the Virtual BigBrain
  - SC3: Brain Complexity and Consciousness
  - SLU6: SWAP pipeline
- Single FAIR processing step
  - SC4: Object Perception and Memory
    - Standard Analysis of neuro models
  - SC5: Dextrous manipulation - how the brain coordinates hand movements
    - Reinforcement learning step
  - SLU7: Learning to learn
    - Parameter exploration as a step

Observations

- Jupyter notebooks should be handled like FAIR data assets
  - Provenance tracking API
  - KG: curation and search
- The provenance API and automated Workflows appear to have a large amount of overlap.

Thank You!

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