







# The SKA Regional Centre science analysis platform vision

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# SKA Regional Centre Capabilities Blueprint

#### **Science Enabling Applications**

Analysis Tools, Notebooks, Workflows execution Machine Learning, etc

#### **Data Discovery**

Discovery of SKA data from the SRCNet, local or remote, transparently to the user

#### **Support to Science Community**

Support community on SKA data use, SRC services use, Training, Project Impact Dissemination

### **Distributed Data Processing**

Computing capabilities provided by the SRCNet to allow data processing

#### Visualization

Advanced visualizers for SKA data and data from other observatories

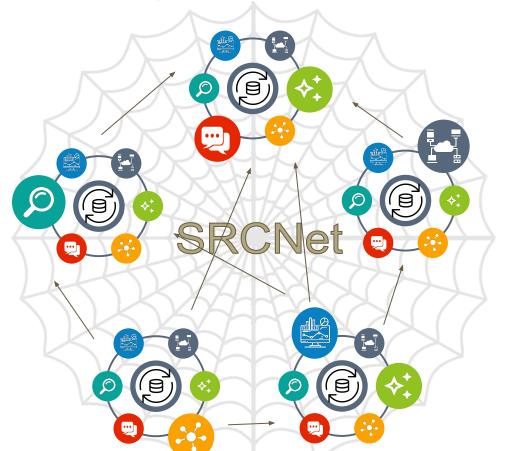
#### Interoperability

Heterogeneous SKA data from different SRCs and other observatories

#### **Data Management**

Dissemination of Data to SRCs and Distributed Data Storage

# **SRC Network global capabilities**



Every node is an instance of the blueprint

Interconnections are done using agreed APIs, using FAIR and VO protocols where available

Collectively meet the needs of the global community of SKA users

Anticipate heterogeneous SRCs, with different strengths

## **SKA SRCNet prototyping**

- Start of the Prototyping phase with a team of teams (50 developers, 20 observers) on the SRC ART
- Program Team: Rosie Bolton, Jeremy Coles, Jesus Salgado
- Science user engagement WG driving an improved understanding of the use cases



### **Draft notice**

The platform vision is currently being reviewed by several people within the the SKA SRC network development team. So the document currently is at a draft stage.

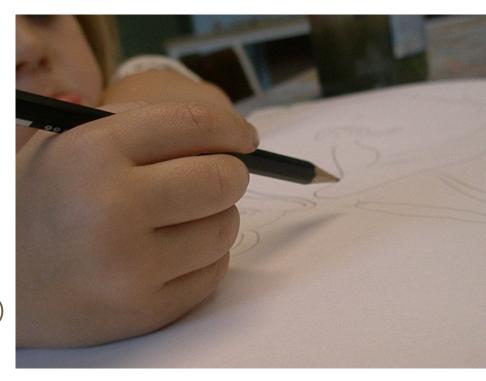
# **Design considerations**

### **Attributes:**

- **onsistency**
- **scalability**
- **\*** reproducibility
- **usability**
- reliability

### **Guiding principles:**

- Highly collaborative
- end-to-end
- accessible (with focus on inclusion)



### **Backend services**

- **Compute services**
- Archive and distributed data
- User file and database services
- Authentication and authorization



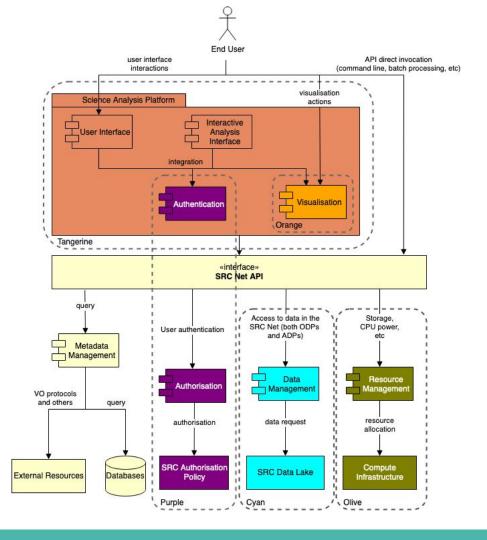
### **Frontend**

- Main user interface
- Data querying and discovery
- Notebook interface
- Software environments
- Web APIs
- Workflow management
- Resource management
- **Groups**
- Software repository



## The platform in the SRCNet

The platform brings together all components of the SRC network for the users



### **VO** standards in our vision

- SKA will mostly produce Science-ready Data products.
  - o SIAP, SSAP, TAP, ADQL
- Work in the prototyping ongoing about integration between the data management system and the VO protocols
- Beyond the "vision" part, usage of UWS (see talk Klaas Kliffen ~8 hrs ago) for batch processing is to be considered
- Complexity may lie in processing data that is stored remotely (e.g. remote cutouts via SODA)