

# SciCat Integration at MLZ Infrastructure and Live Demo Christian FELDER, Alexander ZAFT

MLZ is a cooperation between







### Digital Twins / Virtual Instruments

- Online Training system in use for lab courses and for educating new scientists
- Simulated neutron instruments through NICOS



# Cloud Infrastructure

- Kubernetes: Container orchestration platform
- **Openshift: Kubernetes distribution**
- **Dev**elopment and **Prod**uction clusters
- GitOps
  - Git repository holds state that should be rolled out (source-of-truth)
  - ArgoCD continuously reconciles kubernetes ressources vs. manifests in git .
  - Updates in application repositories trigger pipelines for
    - build of new image
    - update image reference in manifests for dev cluster



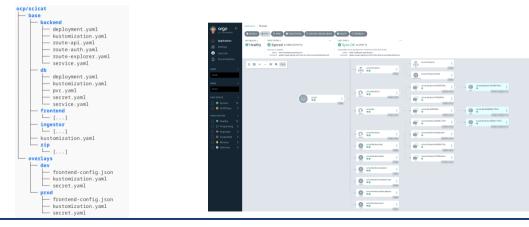






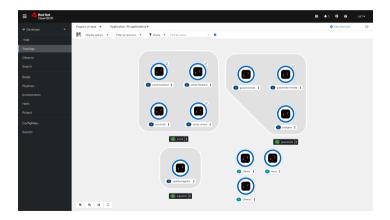
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## GitOps (ArgoCD and Tekton)



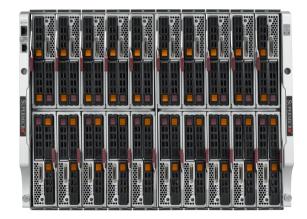


## Topology





#### Demo





#### **Next Steps**

- Automate virtual instrument deployment
- File handling: sync data to central storage instead of sharing a volume
- Metadata handling
  - only save selected parameters
  - standardize between instruments: use ontologies
- Multi-architecture images: x86-64, arm64



## Thanks for your attention

#### **Reaching out**

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#### Get invovled! We're hiring!

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