

# k8s-hep Meetup

→ intro slides

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k8s-hep Meetup ('Chicagoland')  
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**WELCOME**

# Evolving Computing Models & Facilities

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*"**Evolutionary change** towards **HL-LHC** is required, as the experiments will continue to use the current system. Mapping out a **path for migration** then requires a fuller understanding of the costs and benefits of the proposed changes. **A model is needed** in which the benefits of such changes can be evaluated, taking into account **hardware and human costs**, as well as the impact on software and workload performance that in turn leads to physics impact." CWP - <https://arxiv.org/abs/1712.06982>*

We'll need *Facility R&D* to match our *Software R&D*

**NEXT  
GEN  
TIER2**

A fundamental **redesign** of our Tier2 complex is needed to provide **flexibility** to innovate services (CI/CD pipelines), **reproducibility** to ensure reliability, and **security** to sustain new operations models

# Facility Elements

- service platforms
- clustered storage
- analysis frameworks
- edge caches
- interactive services
- accelerators for ML and DOMA functions

Resources  
for scalable  
innovation  
needed!



# Growing recognition that k8s can help

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- IRIS-HEP 'blueprint' meeting at NYU June 21-22, 2019 <https://indico.cern.ch/event/820946/>
- Of the key outcomes:
  - Kubernetes identified as a planned *common denominator* technology for the SSL, increasing our innovation capability through flexible infrastructure.
  - Plans for a multi-site SSL *substrate project* that will federate SSL contributions from multiple resource providers (institutes and public cloud), offering the AS area a flexible platform for service deployment at scales needed to test the viability of system designs.

# Joint WLCG & HSF Workshop 2019 - Analysis Systems: From Future Facilities to Final Plots

1-2 November 2019

University of Adelaide, North Terrace campus

America/Chicago timezone

Overview

Timetable

Participant List

Challenge Groups

This workshop will consider the data that we will gather in upgrading declarative models become more work. This allows many interested engine to the level of the computing high throughput analysis work

How will this work in practice for analysis? Will funding agencies constraints be? Machine learning likely to increase in importance. And how can I build the bridge analysis work, training machine

The workshop will try to answer of the communities concerned find topics of mutual interest.







# other meetings signaling wave of interest

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- K8s BoF at CHEP19, [link](#)
- Dec 10 Pre-GDB – Many faces of k8s, [link](#) and c.f. Alessandra's summary [link](#)
- And CNCF Research User Group
  - Ricardo's pre-GDB [talk](#)
  - <https://github.com/cncf/research-user-group>

# Goals today

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- Describe our respective developments and interests
- Summarize potential roles
  - Service orchestration & declarative CI
  - On the edge; in the infrastructure; over resources
- Look for opportunities to collaborate
  - Infrastructure
  - Platforms
  - Applications
  - Community building --> local, wlcg, cncf.io

# iris-hep Slack #ssl

[https://join.slack.com/t/iris-hep/shared\\_invite/enQtOTI5NDIyNDY4MzI1LTYxMTdiYmE0NGQyOTRlYzEwMThhMGNmYzM0NwY3MGZhN2RlMjZiNjU5YTg1YzBlYjFjMzVjODMwYWlWNGQzNGI](https://join.slack.com/t/iris-hep/shared_invite/enQtOTI5NDIyNDY4MzI1LTYxMTdiYmE0NGQyOTRlYzEwMThhMGNmYzM0NwY3MGZhN2RlMjZiNjU5YTg1YzBlYjFjMzVjODMwYWlWNGQzNGI)