

Innovation is open...

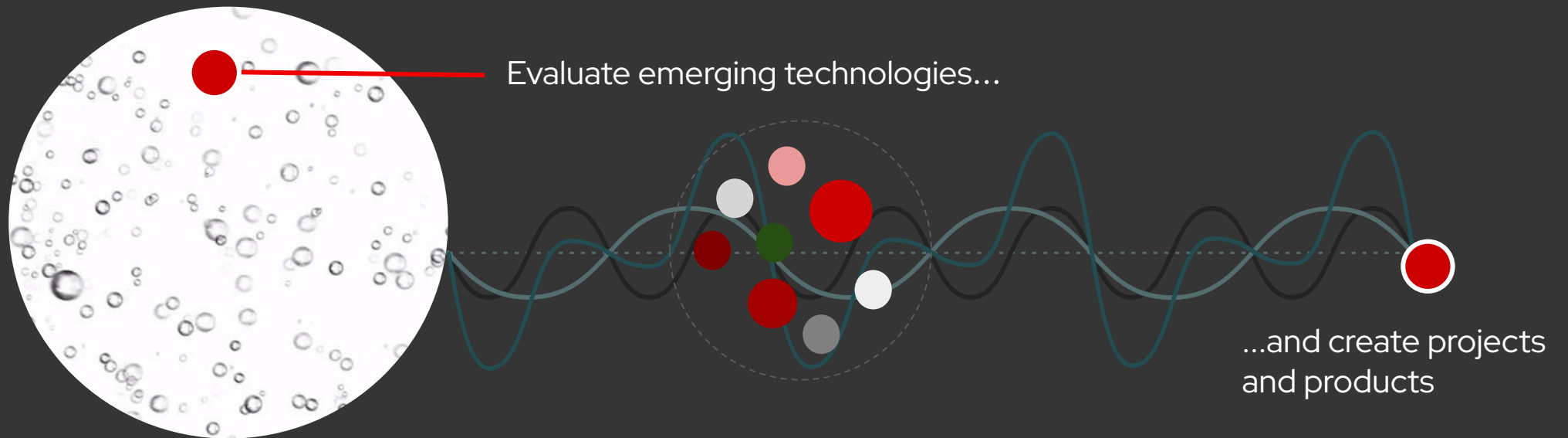
Erin A Boyd

Director of Emerging Technologies

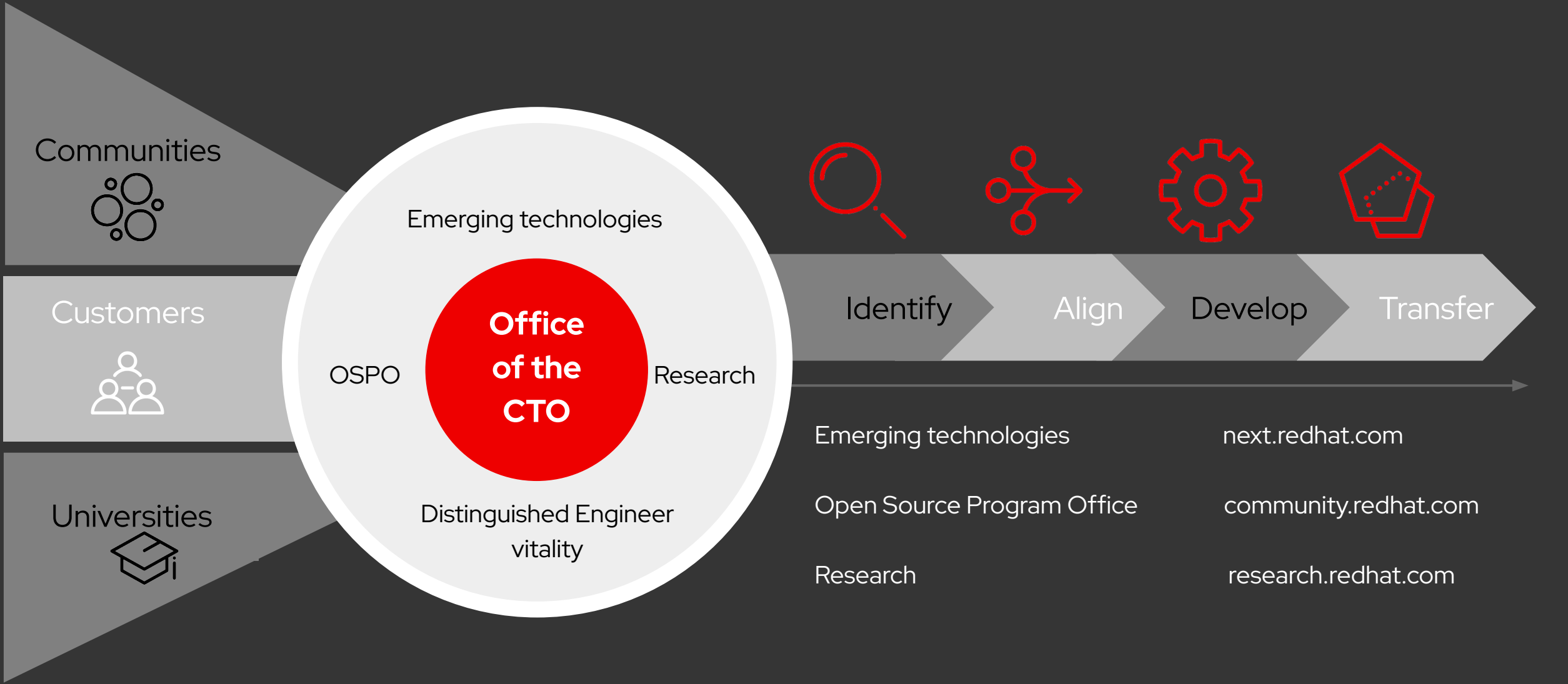
Distinguished Engineer

Open source is the innovation engine for the industry

150M+ OSS repos in Github



Red Hat Emerging Technologies participates in projects and evaluates new opportunities in open source communities...and we create new projects & products and services for our customers.



Today's **experiment** in
open source is tomorrow's
disruption for the enterprise.

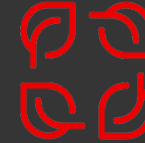
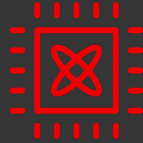
Emerging technology focus areas

Cloud security



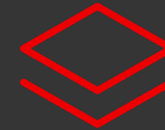
Multicloud networking

Computational infrastructure



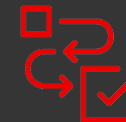
Sustainability

Edge computing



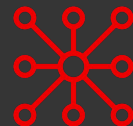
Application platforms

Open services

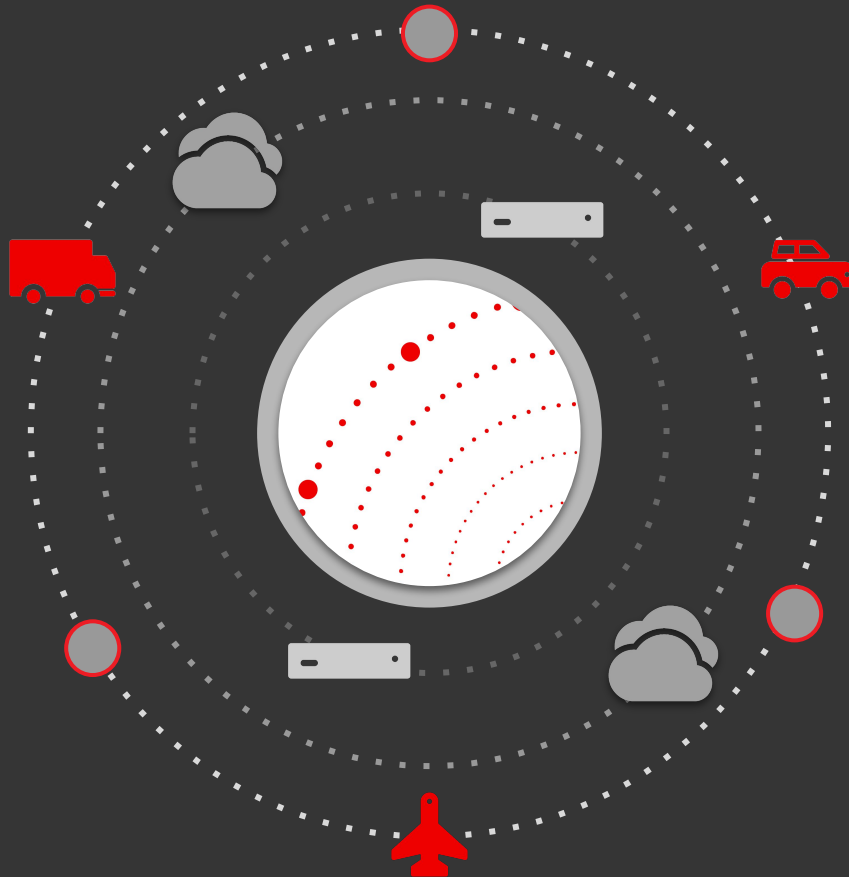


Artificial Intelligence

Data Management



What has our interest in emerging technologies



Development pipelines for AI applications

End-to-end software supply-chain security

Extending the Red Hat hybrid cloud platform
all the way to the edge

Computational Infrastructure

Data Sovereignty

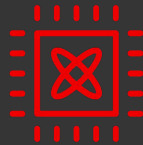
Intelligent / Sustainable computation

How these areas come together

Cloud security



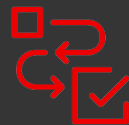
Computational infrastructure



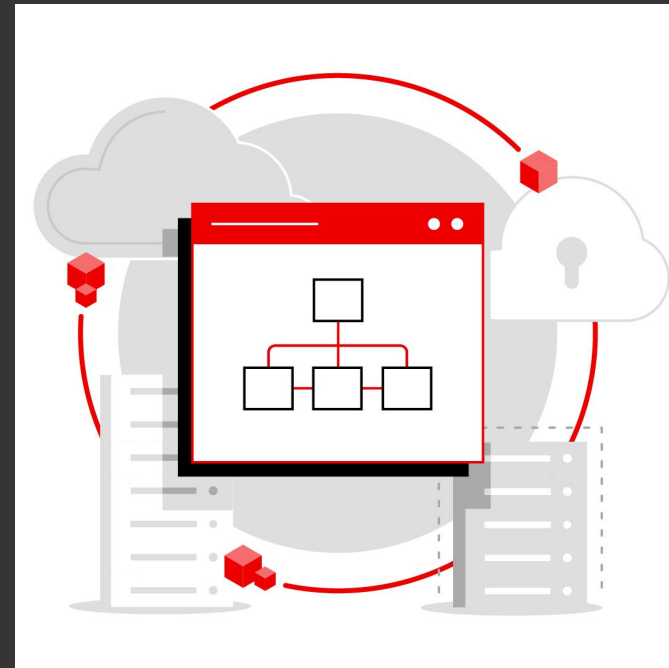
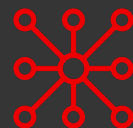
Edge computing



Artificial Intelligence



Data Management



What challenges do we need to overcome?



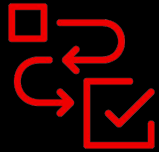
Development



Security



Operations



Area 1:
Cloud-native
AI/ML
development

How do we make it easier for data scientists to do their jobs?

- They need to create trained AI/ML models
- Tools: JupyterHub interactive notebook running on the cloud
- “BYO Notebook” - OpenDataHub
- Pushing workloads to the edge to achieve a lower carbon footprint

End result:

More productive and happier data scientists



Area 2:
Safely deploy
models to edge
devices

How do we ensure we're doing this as securely as possible?

- Cloud offloads software build and deployment processes
- Tools: Tekton, cosign, sigstore, Quay.io, Keylime
- Creating more trust and integrity with verification and attestation

End result:

More confidence in end-to-end software supply chain



Area 3:
Integrating and
delivering at the
edge

How does this come together for edge deployments?

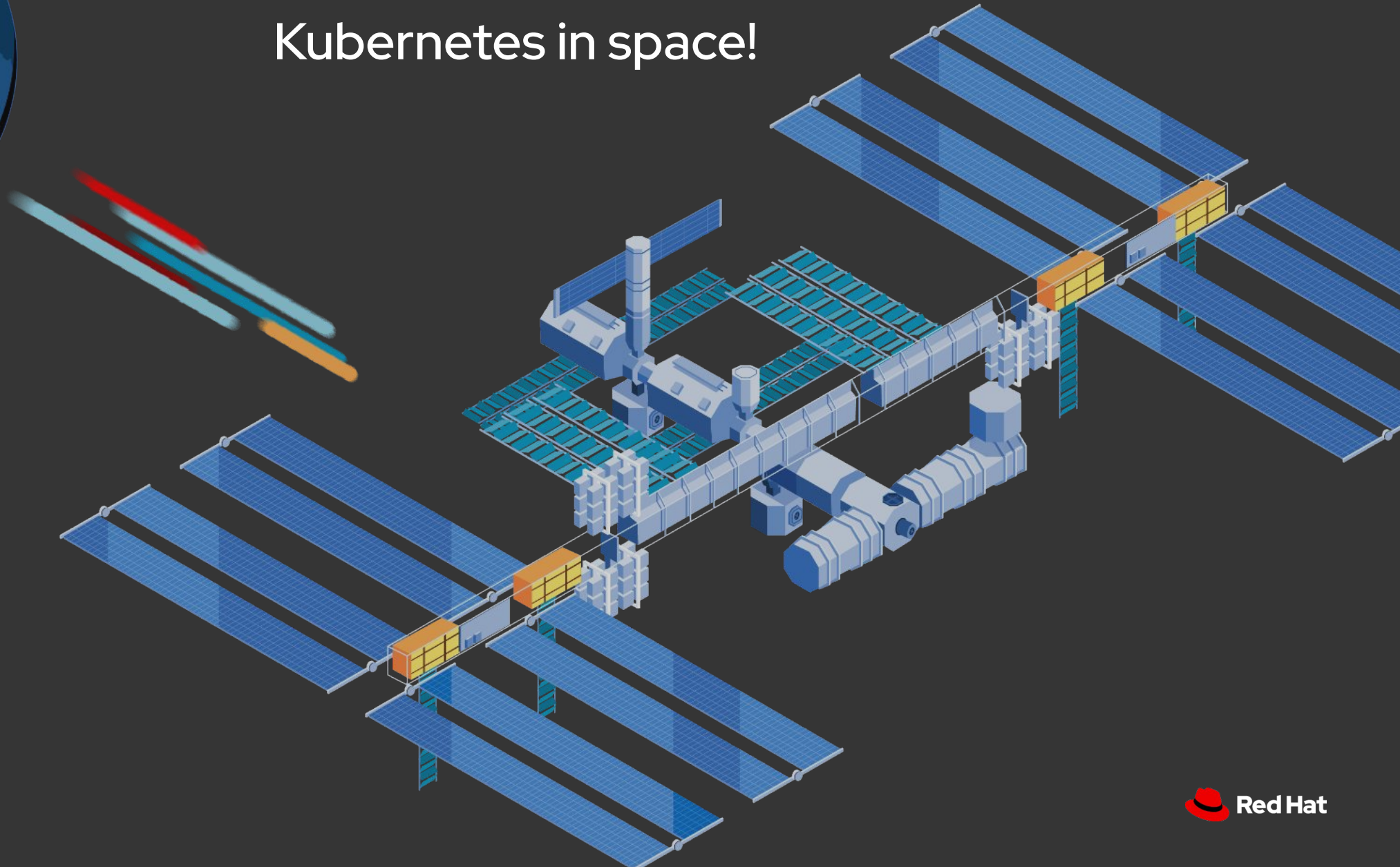
- Edge's ease-of-integration is key for hybrid deployments
- Edge environments are harsh: e.g., sparse network connectivity
- Tool: MicroShift

End result:

AI-edge applications can be deployed and managed on the edge using standard OpenShift tooling



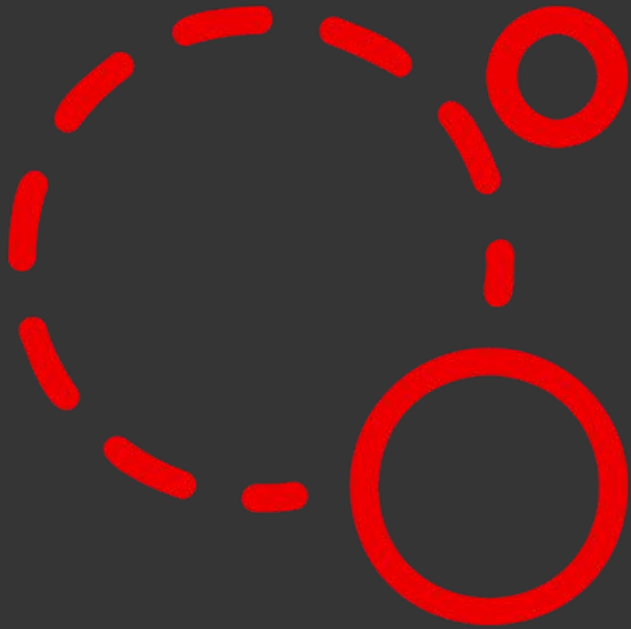
Kubernetes in space!





• ∫ • sigstore

Community



- CNCF Sustainability Technical Advisory Group
- Open Programmable Infrastructure Foundation
- OpenSSF



New SRE Community of Practice

- Discover & collaborate on tooling, technologies & community of practice
- Develop services in the Open to provide transparency across platforms and drive innovation
- op1.st/sig-sre



THANK YOU, DIANE!

Thank you

Red Hat is the world's leading provider of enterprise open source software solutions. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500.

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Quick summary

Development pipelines for AI applications

End-to-end software supply-chain security

Extending the Red Hat hybrid cloud platform
all the way to the edge



Introducing our autonomous, secure AI-app edge device

