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Platform Engineering and KubePattern

Engineering the Golden Path for Cloud Native Development

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Objectives

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O1

Contribute to the KubeCloud Platform

Implement **new features** to improve the Developer Experience. Integrating security, quality check, and compliance tools into Sigemi's Internal Developer Platform.

O2

Engineering KubePattern

Create an automated analysis tool for Kubernetes clusters to **suggest architectural patterns**.

O3

Designing a Cloud Native Golden Path

Guide developers in creating **Cloud Native applications**.

Contribution

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KubeCloud Platform

- Scaffolding, Blueprint, and CI/CD Pipeline
  - **Automation** of the microservices lifecycle, from code to deployment.
- **Reports**: Common Vulnerabilities and Exposures, Code Smells, Kubernetes smells and Software Bill of Materials.

Key Results

KubePattern was developed with a "**Platform for Platform**" approach. The use of Kubernetes Patterns has improved the quality of applications developed with KubeCloud Platform and the integrity of the platform itself.

KubePattern

- Detection of **Kubernetes Architectural Smells**
  - **Graph** for analyzing relationships between resources.
- **"Pattern as Code"** methodology
  - Decoupled analysis logic managed via a **Pattern Registry** on Git
  - **Pattern suggestion** for resolving smells and improving cluster quality.
- Java Spring Boot, JGraphT, Official Java client library for Kubernetes

Questions?
Thank you.