Product Engineering & Software Development | DevOps | Platform Modernization

How a *Product Engineering Company* standardized 100+ microservices deployments with GitOps automation

Company	Industry	Partner
Product Engineering	**Product Engineering & Software Development**	**Flentas Technologies**

Flentas

Introduction

The Client is a specialized product engineering company that develops high-scale digital platforms for enterprise customers across South Africa and India. Its solutions span telecommunications, financial reconciliation, rewards management, and other business-critical applications that require reliable, scalable infrastructure and efficient software delivery processes.

As the organization's application portfolio and microservices ecosystem continued to grow, manual infrastructure management and deployment processes began creating operational bottlenecks. Deployments were time-consuming, environment consistency was difficult to maintain, and critical platform components introduced availability risks.

To support future growth and improve operational efficiency, the Company partnered with Flentas Technologies to modernize its platform operations, automate software delivery, and build a more resilient infrastructure foundation.

At a Glance

Solution

Platform Standardization
Standardized Kubernetes provisioning and infrastructure management.

CI/CD & GitOps Automation
Automated software delivery through Git-based deployment workflows.

Container & Secrets Management
Improved application delivery and strengthened platform resilience.

Operational Modernization
Reduced manual effort through automation and standardized processes.

Business Impact

- Faster and more consistent software releases
- Reduced deployment effort and operational overhead
- Improved platform availability and resilience
- Increased scalability through standardized infrastructure

Technologies & Services Used

Compute
- Kubernetes

Infrastructure Automation
- Ansible
- Kubespray

CI/CD
- Jenkins
- Argo CD

Container Registry
- Harbor

Secrets Management
- HashiCorp Vault

Key Management
- AWS KMS

DevOps Practices
- GitOps
- Infrastructure-as-Code

The Challenge

As the number of applications, environments, and microservices increased, several infrastructure and operational challenges began impacting delivery speed, reliability, and scalability.

01

Inconsistent Infrastructure Management

Kubernetes environments were provisioned and managed through manual processes, creating configuration drift between development, QA, and production environments. Maintaining consistency across environments became increasingly difficult as the platform scaled.

02

Manual & Time-Consuming Deployments

Production deployments required significant manual effort, including updating deployment configurations across more than 100 microservices. This extended deployment windows, increased operational dependency on specific team members, and raised the risk of human error.

03

Container Delivery Bottlenecks

Application deployments relied on external container image repositories, resulting in slower image retrieval, deployment delays, and occasional operational limitations during large-scale releases.

04

Critical Secrets Management Risk

The secrets management platform operated as a single-node deployment, creating a potential single point of failure. Any outage or restart could impact application availability and require manual recovery activities.

05

Limited Deployment Automation

Application delivery processes lacked standardization and automation. Teams relied heavily on manual deployment workflows, reducing visibility, auditability, and consistency across environments.

The Solution

Flentas Technologies implemented a comprehensive DevOps and platform modernization strategy focused on automation, reliability, scalability, and operational efficiency.

01

Standardized Platform Provisioning

Infrastructure provisioning was standardized using Infrastructure-as-Code practices, enabling consistent Kubernetes deployments across development, QA, and production environments while simplifying lifecycle management and future expansion.

02

Automated CI/CD and GitOps Workflows

A modern software delivery framework was implemented to automate build, deployment, and release management processes. Git-based workflows became the single source of truth for application deployments, improving consistency, traceability, and operational control.

03

Enterprise Container Registry

A centralized container registry was introduced to improve image distribution, strengthen governance, and eliminate deployment delays associated with external repository limitations.

04

High-Availability Secrets Management

The secrets management platform was redesigned as a highly available architecture with automated failover and recovery capabilities, ensuring continuous access to critical credentials and configuration data.

05

Improved Deployment Governance

Deployment workflows were standardized across environments, providing better visibility, auditability, and control while reducing manual intervention and operational risk.

06

Scalable Operational Foundation

The new platform architecture enables faster environment provisioning, simplified maintenance, and more efficient management of large-scale microservices deployments.

Business Impact

Faster Software Delivery

Automated deployment pipelines significantly reduced release effort and streamlined application delivery across environments.

Improved Deployment Reliability

Standardized deployment processes reduced manual errors and improved consistency across development, QA, and production environments.

Enhanced Platform Availability

High-availability architecture for critical platform services improved resilience and reduced operational risk.

Reduced Operational Overhead

Automation eliminated repetitive manual tasks, enabling engineering teams to focus on product development rather than infrastructure management.

Greater Scalability

Standardized infrastructure and automated provisioning provide a repeatable framework for future growth and environment expansion.

Stronger Governance & Visibility

GitOps workflows and centralized deployment management improved auditability, traceability, and operational control across the software delivery lifecycle.

Conclusion

By partnering with Flentas Technologies, the Client successfully transformed its infrastructure and software delivery processes through a modern DevOps operating model.

The organization now benefits from automated deployments, standardized infrastructure management, improved platform reliability, and stronger operational governance. With a scalable platform foundation in place, the Company can deliver applications faster, reduce operational complexity, and support future business growth with greater confidence.

Take Action

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