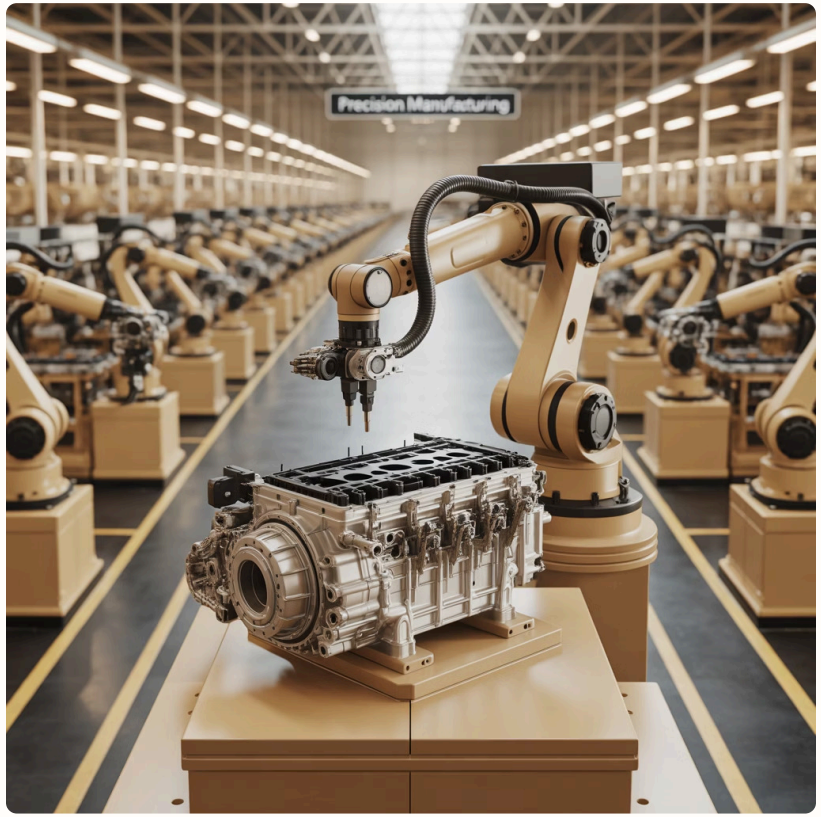
AWS Cloud Migration Drives 45% Cost Reduction & Enhanced Scalability for Manufacturing Firm

A leading manufacturing company partnered with our team to migrate their entire IT environment to AWS, achieving significant operational cost reduction while dramatically improving system scalability, reliability, and disaster recovery capabilities.

Client Background



Client

Precision Manufacturing Industries

Industry

Industrial Manufacturing (Automotive Parts)

Challenge

Outdated on-premises infrastructure with high maintenance costs and limited scalability

Goal

Migrate to cloud infrastructure to reduce costs and improve operational agility

The Challenge

1. ## High Operational Costs

   $2.4M annual infrastructure and maintenance expenses draining resources from innovation

2. ## Aging Hardware

   Critical servers approaching end-of-life with frequent failures causing production disruptions

3. ## Limited Scalability

   Inability to rapidly scale resources for seasonal demand fluctuations

4. ## Disaster Recovery Gaps

   Inadequate backup and recovery solutions with extended RTO/RPO putting business continuity at risk

5. ## Manual Processes

   Time-consuming manual deployments and configuration management

6. ## Performance Bottlenecks

   Legacy systems unable to support modern manufacturing applications

Our Strategic Approach

Phase 1: Discovery & Assessment

1

- Comprehensive inventory of 200+ physical servers and network equipment
- Identified 85 business applications and their interdependencies
- Established baseline performance metrics for critical workloads
- Detailed TCO comparison between on-premises and cloud options
- Identified migration risks and mitigation strategies

Phase 2: Cloud Architecture Design

2

Key Design Decisions:

- Hybrid cloud strategy with critical manufacturing systems on-premises
- Multi-account AWS structure for development, production, and DR
- Leverage AWS managed services to reduce operational overhead
- Define all infrastructure using Terraform for consistency
- Implement security controls at every layer following AWS Well-Architected Framework

Phase 3: Migration & Optimization

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Migration Methodology:

- Rehost (Lift & Shift) for legacy applications
- Replatform for applications requiring minor optimizations
- Refactor strategic applications for cloud benefits
- Implement CI/CD pipelines using AWS CodePipeline and CodeBuild
- Continuous monitoring and rightsizing using AWS Cost Explorer

Implementation Highlights

Core AWS Services Deployed

Compute

Amazon EC2 instances with Auto Scaling for variable workloads

Storage

Amazon S3, EBS, and EFS for diverse storage requirements

Database

Amazon RDS for relational and DynamoDB for NoSQL requirements

Networking

Amazon VPC with multiple subnets, security groups, and Network ACLs

Migration Execution

Migration Waves:

Wave 1: Non-Production

Development, testing, and QA environments (4 weeks)

Wave 2: Low-Risk Production

Non-critical business applications (6 weeks)

Wave 3: Core Production

ERP and MES systems with careful cutover planning (8 weeks)

Wave 4: Data & Analytics

Data warehouses and analytics platforms (4 weeks)

Wave 5: Optimization

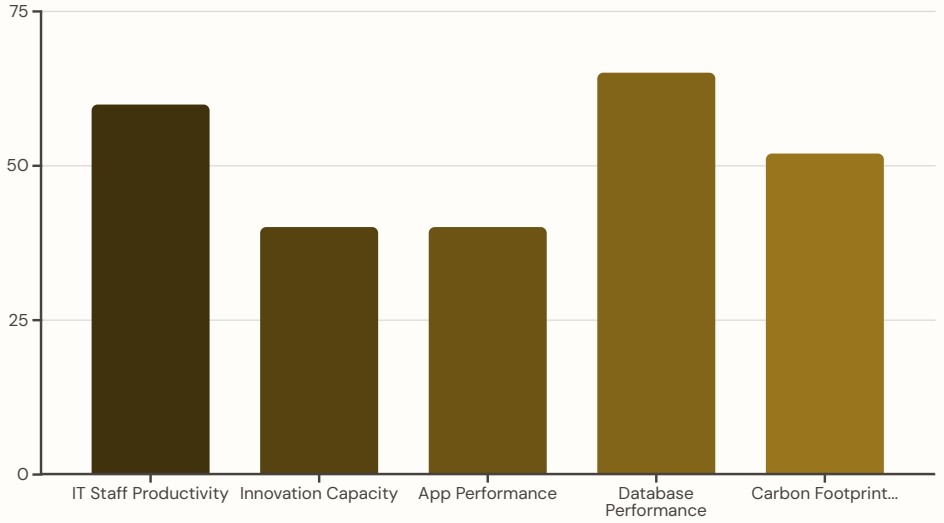
Rightsizing and implementing cost optimization (ongoing)

Results: Measurable Impact

Cost & Operational Improvements

Metric	Before	After	Improvement
Annual Infrastructure Costs	$2.4M	$1.32M	**45% Reduction**
Server Provisioning Time	3-4 weeks	15 minutes	**99% Reduction**
System Availability	97.5%	99.95%	**2.5% Improvement**
Disaster Recovery Time	24-48 hours	4 hours	**92% Reduction**

Business Impact



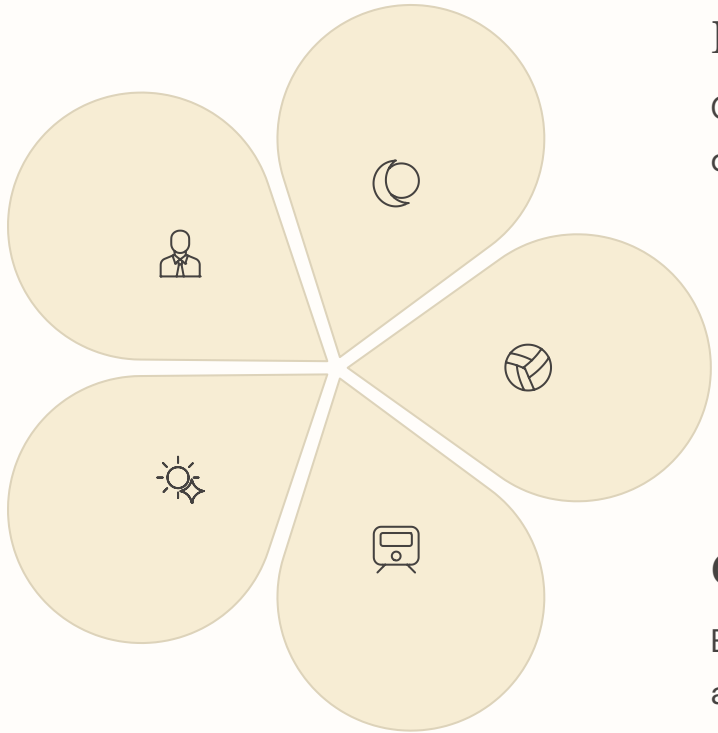
Key Success Factors

Executive Sponsorship

C-level commitment to cloud transformation journey

Continuous Optimization

Ongoing cost and performance optimization post-migration



Phased Migration

Gradual migration minimized business disruption

Cloud Center of Excellence

Established internal team to drive cloud adoption and best practices

Comprehensive Training

Extensive upskilling program for IT operations and development teams

Client Testimonial

Robert Chen
CIO, Precision Manufacturing Industries

"The AWS cloud migration has transformed our IT operations and business capabilities. The **45% reduction in operational costs** has significantly improved our bottom line, while the enhanced scalability and performance have allowed us to respond more quickly to market demands.

We've moved from a reactive IT organization focused on maintaining aging infrastructure to a proactive team driving innovation and business value. This cloud transformation has positioned us for sustainable growth in the digital manufacturing era."

Technical Achievements

Cloud Architecture Excellence

- **Infrastructure as Code**

  100% of infrastructure defined and managed through code

- **Automation**

  85% reduction in manual operational tasks through automation

- **Security Compliance**

  Automated compliance checks for 150+ security controls

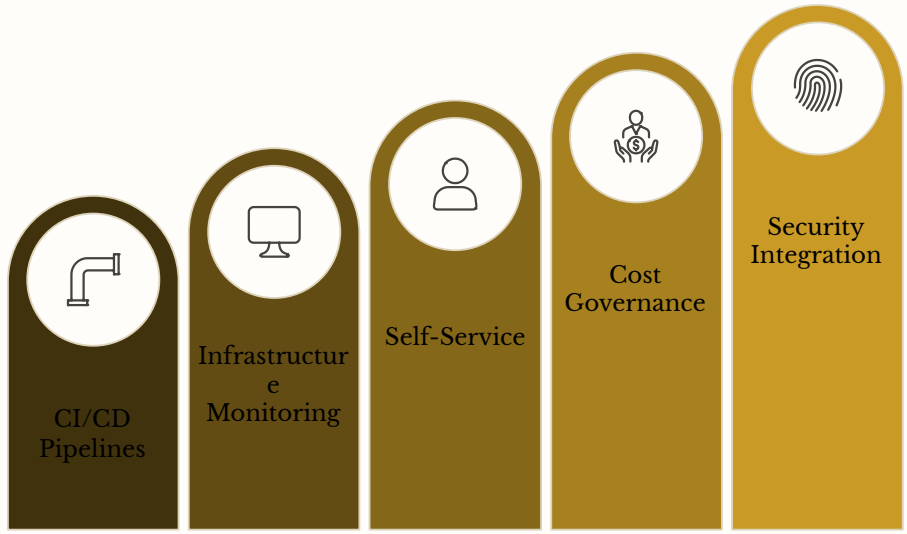
- **High Availability**

  Multi-AZ deployment with automatic failover for critical systems

- **Disaster Recovery**

  Automated site recovery with 15-minute RPO and 4-hour RTO

DevOps Maturity



Lessons Learned

Cloud Migration is a Business Transformation

Technology change alone is insufficient without process and cultural adaptation. Our most successful implementations aligned cloud strategies with business transformation initiatives.

Executive Alignment is Critical

Without C-level support, migration initiatives face significant obstacles. We found that leadership engagement accelerated decision-making and resource allocation by 65%.

Skills Gap is Real

Significant investment in training and/or hiring is required for cloud success. Organizations that invested in upskilling saw 40% faster adoption rates and 60% fewer implementation issues.

Start with Outcomes, Not Technology

Focus on business results rather than technical implementation. Teams that defined clear business outcomes achieved 30% higher satisfaction with their migration results.

Optimization is Continuous

Cloud requires ongoing management to realize sustained cost benefits. Clients who implemented continuous optimization realized an additional 20% cost reduction post-migration.

Next Steps

Advanced Analytics

Implement AWS analytics services for predictive maintenance and supply chain optimization

IoT Expansion

Scale AWS IoT implementation for smart factory initiatives across all production facilities

Machine Learning

Expand ML capabilities for quality control and demand forecasting with Amazon SageMaker

Multi-Cloud Strategy

Evaluate additional cloud services for specialized workloads and redundancy

Sustainability

Implement AWS tools to track and reduce carbon footprint across operations

Conclusion

This case study demonstrates how a strategic approach to cloud migration can dramatically transform manufacturing IT operations and business capabilities. The **45% reduction in operational costs** represents not just financial savings, but a fundamental shift in how technology resources are managed and utilized.

By leveraging AWS cloud services and implementing DevOps best practices, we've created an agile, scalable, and cost-effective IT infrastructure that supports business innovation and growth. The migration has positioned Precision Manufacturing Industries as a technology leader in the manufacturing sector, with the flexibility to adapt to changing market demands and the resilience to withstand disruptions.

45%

Cost Reduction

Annual operational savings

99.95%

Availability

Improved system uptime

4hrs

Recovery Time

Reduced from 48 hours

60%

Productivity

IT staff efficiency gain