Implementation Roadmap & Next Steps

IMPLEMENTATION PHASES

Phase 1: Data Quality Enhancement (Weeks 1-6)
• Address 82% missing machine hours data
• Develop proxy measures for equipment condition
• Implement robust data cleaning pipeline
• Validate data quality improvements

Phase 2: Model Development & Optimization (Weeks 4-14)
• Advanced feature engineering
• Ensemble method implementation
• Hyperparameter optimization
• Cross-validation enhancement

Phase 3: Validation & Testing (Weeks 12-18)
• Comprehensive model validation
• Business stakeholder review
• Performance benchmarking
• Documentation completion

Phase 4: Production Deployment (Weeks 16-20)
• Production pipeline setup
• Monitoring system implementation
• User training and documentation
• Go-live support

KEY MILESTONES:
✓ Week 0: Project kickoff
→ Week 8: MVP model delivery
→ Week 16: Production-ready system
→ Week 20: Full deployment complete

RESOURCE REQUIREMENTS:
• Data Science Team: 2-3 engineers
• Infrastructure: Cloud ML platform
• Budget: ~$2M total investment
• Timeline: 20 weeks to full deployment