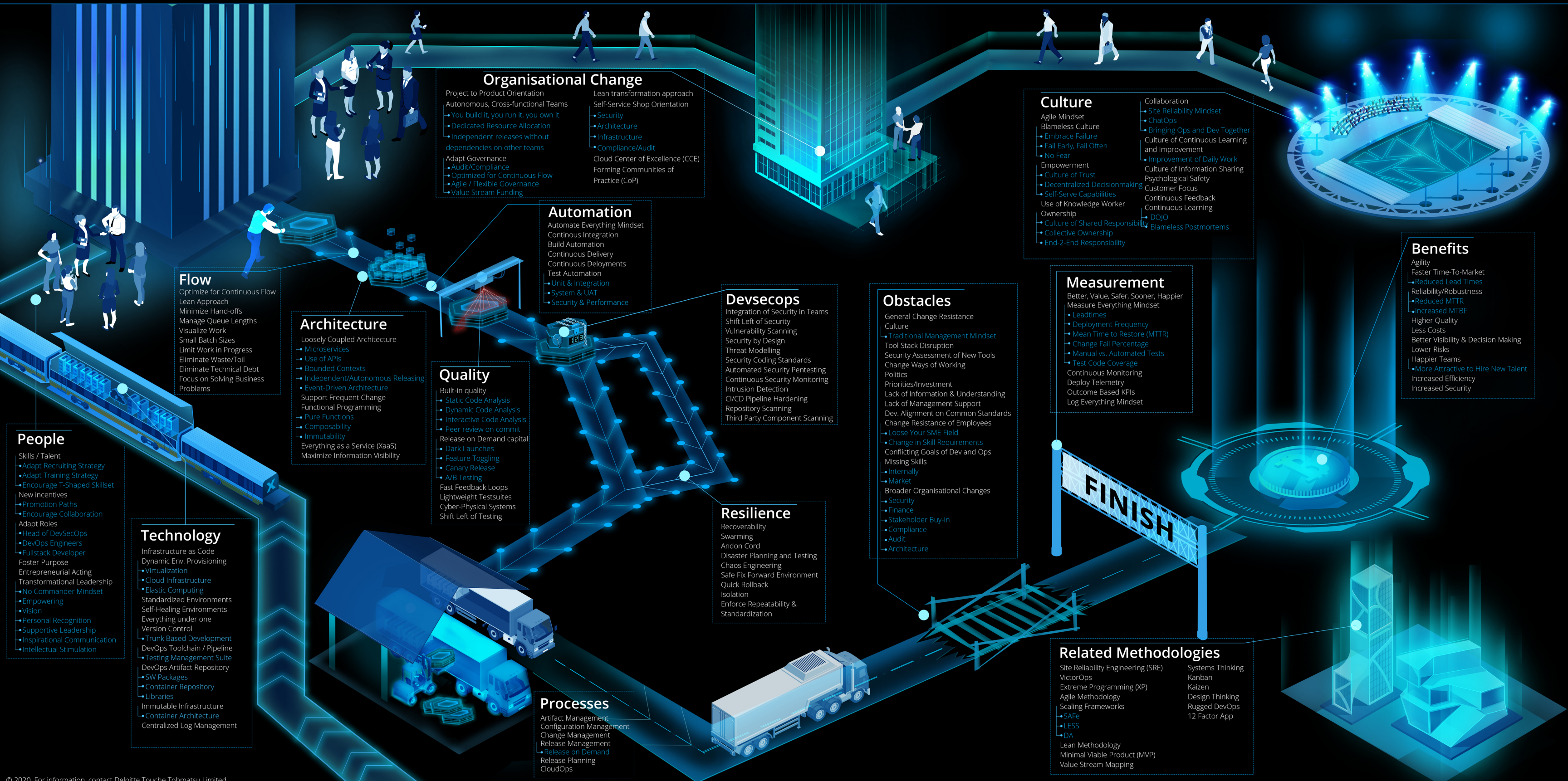


DevOps Landscape



Organisational Change

- Project to Product Orientation
- Autonomous, Cross-functional Teams
 - You build it, you run it, you own it
 - Dedicated Resource Allocation
 - Independent releases without dependencies on other teams
- Adapt Governance
 - Audit/Compliance
 - Optimized for Continuous Flow
 - Agile / Flexible Governance
 - Value Stream Funding
- Lean transformation approach
 - Self-Serve Shop Orientation
 - Security
 - Architecture
 - Infrastructure
 - Compliance/Audit
- Cloud Center of Excellence (CCE)
- Forming Communities of Practice (CoP)

Automation

- Automate Everything Mindset
- Continuous Integration
- Build Automation
- Continuous Delivery
- Continuous Deployments
- Test Automation
 - Unit & Integration
 - System & UAT
 - Security & Performance

Devsecops

- Integration of Security in Teams
- Shift Left of Security
- Vulnerability Scanning
- Security by Design
- Threat Modelling
- Security Coding Standards
- Automated Security Pentesting
- Continuous Security Monitoring
- Intrusion Detection
- CI/CD Pipeline Hardening
- Repository Scanning
- Third Party Component Scanning

Resilience

- Recoverability
- Swarming
- Andon Cord
- Disaster Planning and Testing
- Chaos Engineering
- Safe Fix Forward Environment
- Quick Rollback
- Isolation
- Enforce Repeatability & Standardization

Processes

- Artifact Management
- Configuration Management
- Change Management
- Release Management
 - Release on Demand
- Release Planning
- CloudOps

Quality

- Built-in quality
 - Static Code Analysis
 - Dynamic Code Analysis
 - Interactive Code Analysis
 - Peer review on commit
- Release on Demand capital
 - Dark Launches
 - Feature Toggling
 - Canary Release
 - A/B Testing
- Fast Feedback Loops
- Lightweight Test suites
- Cyber-Physical Systems
- Shift Left of Testing

Architecture

- Loosely Coupled Architecture
 - Microservices
 - Use of APIs
 - Bounded Contexts
 - Independent/Autonomous Releasing
 - Event-Driven Architecture
- Support Frequent Change
- Functional Programming
- Pure Functions
- Composability
- Immutability
- Everything as a Service (XaaS)
- Maximize Information Visibility

Flow

- Optimize for Continuous Flow
- Lean Approach
- Minimize Hand-offs
- Manage Queue Lengths
- Visualize Work
- Small Batch Sizes
- Limit Work in Progress
- Eliminate Waste/Toil
- Eliminate Technical Debt
- Focus on Solving Business Problems

People

- Skills / Talent
 - Adapt Recruiting Strategy
 - Adapt Training Strategy
 - Encourage T-Shaped Skillset
- New incentives
- Promotion Paths
- Encourage Collaboration
- Adapt Roles
 - Head of DevSecOps
 - DevOps Engineers
 - Fullstack Developer
- Foster Purpose
- Entrepreneurial Acting
- Transformational Leadership
- No Commander Mindset
- Empowering
- Vision
- Personal Recognition
- Supportive Leadership
- Inspirational Communication
- Intellectual Stimulation

Technology

- Infrastructure as Code
- Dynamic Env. Provisioning
 - Virtualization
 - Cloud Infrastructure
 - Elastic Computing
- Standardized Environments
- Self-Healing Environments
- Everything under one
- Version Control
- Trunk Based Development
- DevOps Toolchain / Pipeline
- Testing Management Suite
- DevOps Artifact Repository
- SW Packages
- Container Repository
- Libraries
- Immutable Infrastructure
- Container Architecture
- Centralized Log Management

Culture

- Agile Mindset
- Blameless Culture
 - Embrace Failure
 - Fail Early, Fail Often
 - No Fear
- Empowerment
 - Culture of Trust
 - Decentralized Decisionmaking
 - Self-Serve Capabilities
 - Use of Knowledge Worker
- Ownership
 - Culture of Shared Responsibility
 - Collective Ownership
 - End-2-End Responsibility
- Collaboration
 - Site Reliability Mindset
 - ChatOps
 - Bringing Ops and Dev Together
- Culture of Continuous Learning and Improvement
 - Improvement of Daily Work
 - Culture of Information Sharing
 - Psychological Safety
 - Customer Focus
 - Continuous Feedback
 - Continuous Learning
 - DOJO
 - Blameless Postmortems

Measurement

- Better, Value, Safer, Sooner, Happier
- Measure Everything Mindset
 - Leadtimes
 - Deployment Frequency
 - Mean Time to Restore (MTTR)
 - Change Fail Percentage
 - Manual vs. Automated Tests
 - Test Code Coverage
 - Continuous Monitoring
 - Deploy Telemetry
 - Outcome Based KPIs
 - Log Everything Mindset

Obstacles

- General Change Resistance
- Culture
 - Traditional Management Mindset
 - Tool Stack Disruption
 - Security Assessment of New Tools
 - Change Ways of Working
 - Politics
 - Priorities/Investment
 - Lack of Information & Understanding
 - Lack of Management Support
 - Dev. Alignment on Common Standards
 - Change Resistance of Employees
 - Loose Your SME Field
 - Change in Skill Requirements
 - Conflicting Goals of Dev and Ops
 - Missing Skills
 - Internally
 - Market
- Broader Organisational Changes
 - Security
 - Finance
 - Stakeholder Buy-in
 - Compliance
 - Audit
 - Architecture

Benefits

- Agility
- Faster Time-To-Market
- Reduced Lead Times
- Reliability/Robustness
- Reduced MTTR
- Increased MTBF
- Higher Quality
- Less Costs
- Better Visibility & Decision Making
- Lower Risks
- Happier Teams
- More Attractive to Hire New Talent
- Increased Efficiency
- Increased Security

Related Methodologies

- Site Reliability Engineering (SRE)
- VictorOps
- Extreme Programming (XP)
- Agile Methodology
- Scaling Frameworks
 - SAFe
 - LESS
 - DA
- Lean Methodology
- Minimal Viable Product (MVP)
- Value Stream Mapping
- Systems Thinking
- Kanban
- Kaizen
- Design Thinking
- Rugged DevOps
- 12 Factor App