

## FINDING A BETTER WAY



At Next Ridge Technologies, LLC we believe that improved performance occurs when systems within an organization are working in harmony. Our services are based on a philosophy that organizations are a system of the interactions between people, processes, and technology. Using a systems-based approach, we partner with our clients to provide custom solutions in operations, quality, and supply management that deliver improvements in organizational performance.

412-554-0571 | [mdsherwin@nextridgetech.com](mailto:mdsherwin@nextridgetech.com) | [www.nextridgetech.com](http://www.nextridgetech.com)



### Consultation

We can conduct an analysis of your current situation and provide recommendations for improvement.



### Training

We'll work with you to develop and deliver training to equip your team with the knowledge they need.



### Support

We can partner with you to by providing operational support for any of our service offerings.



### Project

Fully engage with us to work with you in developing and delivering process improvements.

## EXPERIENCE

More than 20 years of experience delivering results in the manufacturing sector working for Fortune 500 companies and start-up organizations.

### Areas

- Culture change
- Training
- Quality management
- Process engineering
- Data analytics
- Root cause analysis
- Supply chain
- Lean / Six Sigma
- Operations

### Markets

- Medical device
- Aerospace
- Personalized medicine
- Defense
- Nuclear
- Higher education
- Heavy industrial
- Oil and gas
- Consumer electronics

## Certifications and Education

- Registered Professional Engineer (PA)
- Six Sigma Black Belt (ASQ)
- PhD, Industrial Engineering
- MS, Industrial and Manufacturing Engineering
- Master of Business Administration
- BS, Materials Engineering

FINDING A BETTER WAY

# Service Offerings



412-554-0571 | [mdsherwin@nextridgetech.com](mailto:mdsherwin@nextridgetech.com) | [www.nextridgetech.com](http://www.nextridgetech.com)

Next Ridge Technologies will work with you to develop customized services that best suit your goals, business, and desired results. Services can be selected a la carte or we can work with you to implement a customized combination of offerings to move your organization to the next level of performance.



## PEOPLE

- Change management
- Employee engagement
- Communication
- Succession planning
- Development planning
- Training
- Survey administration
- Leadership
- Skills assessment



## PROCESSES

- Lean
- Six Sigma
- Root cause analysis
- Problem solving
- Quality systems
- Defect reduction
- Risk mitigation
- Kaizen
- Supply management



## ANALYTICS

- Statistical analysis
- Machine learning
- Optimization
- Statistical process control
- Planning and scheduling
- Inventory management
- Reliability
- Predictive quality
- Simulation



## PERFORMANCE

- Quality system audits
- Strategic planning
- Policy deployment
- Leader standard work
- Metric development
- Gap assessments
- Coaching
- Performance monitoring
- Manage for daily improvement

Contact us for more information about our proprietary  
Supply Chain Risk Identification and Planning Toolkit, SCRIPT®

**SUPPLY CHAIN  
RISK MANAGEMENT**

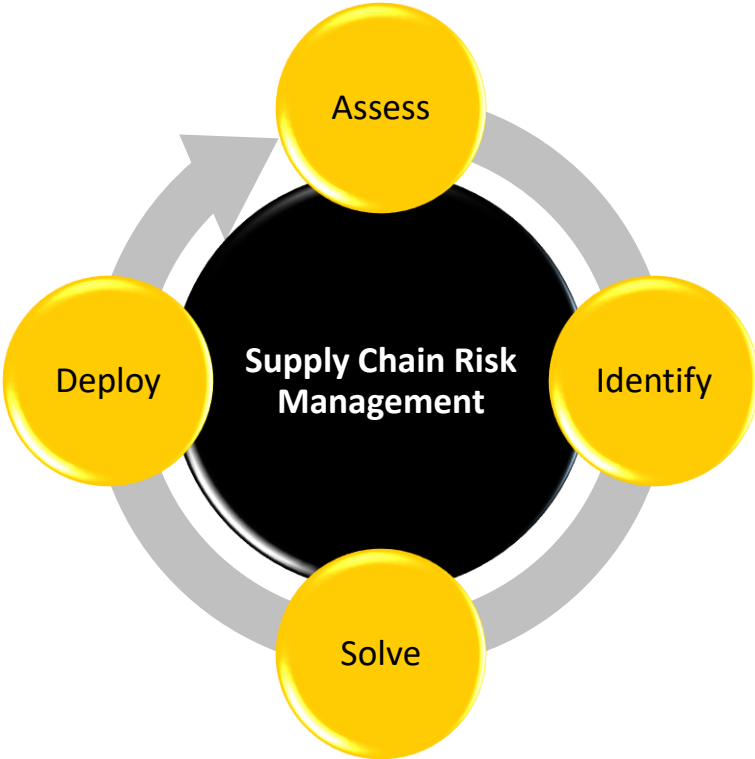




# Supply Chain Risk Management

## Approach

- Conduct a supply chain risk assessment
- Map the supply chain network



- Implement solutions and tools
- Document processes
- Train stakeholders

- Identify and prioritize risks within the supply chain

- Develop processes and solutions to risks that have been identified

**SCRIPT**



# SCRIPT



## Overview

- SCRIPT = Supply Chain Risk Identification and Planning Toolkit
- Consists of three elements, which can be completed independently or in relation to one another



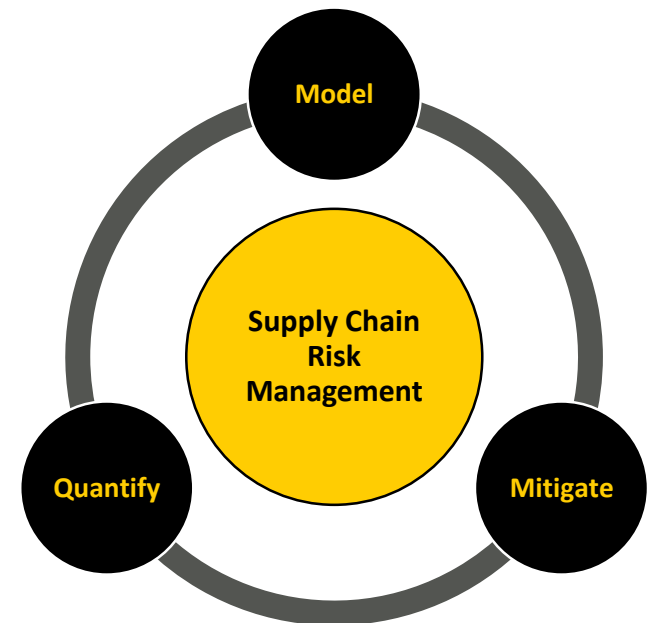
**Model.** How can a complex supply chain be organized and analyzed simply to assess risk and quantify reliability of the portfolio of suppliers?



**Mitigate.** What are the mitigation activities that should be undertaken to (1) mitigate risks within the supply chain, (2) maximize the reliability of the supply chain portfolio, and (3) achieve budgetary goals?



**Quantify.** In advance of placing a purchase order, how can the reliability of a procurement be predicted and what are the significant factors that contribute to the reliability of that procurement?



# SCRIPT

Problems Solved



## Supply Chain Problems



Decisions are made in silos



Risk response is reactionary



Decisions are made qualitatively



Available data is not fully utilized

## The Solution

### SCRIPT

Enable supply chain practitioners with a robust tool that will enable them to:

- Convert enterprise data into useful information
- Analyze risk within a supply chain quantitatively and proactively
- Make more informed decisions with consideration for the entire supply chain portfolio

# SCRIPT



## References

### Publications

- Sherwin, Michael D. An optimized resource allocation approach to identify and mitigate supply chain risks using fault tree analysis. 2018. Mississippi State University, PhD dissertation.
- Sherwin, Michael D., Hugh Medal, and Steven A. Lapp. "Proactive cost-effective identification and mitigation of supply delay risks in a low volume high value supply chain using fault tree analysis." *International Journal of Production Economics* 175 (2016): 153-163.
- Sherwin, M. D., Medal, H. R., MacKenzie, C. A., & Brown, K. J. (2019). Identifying and mitigating supply chain risks using fault tree optimization. *IIE Transactions*, (just-accepted), 1-33.

### Working Paper

- Sherwin, Michael, Hugh Medal, and Cameron MacKenzie. "Predicting Supplier Reliability in a Low Volume High Value Supply Chain Using Machine Learning." Working paper.