RockIT x Cisco: The Manufacturing IT Buyer's Guide & Workbook

Assess, prioritize, and implement Cisco the smart way—so production keeps moving and downtime unheard of.

teamrockit.com

How to Use This Book

Who It's For:

Manufacturing leaders (IT, OT, plant ops) who want a clear, non-fluffy plan to upgrade networks and security with Cisco—and win stakeholder buy-in.

What You'll Get:

Clear explanations, worksheets, checklists, and templates you can copy straight into your plan.

Promise:

By the end, you'll be able to explain what to do, why it matters, what it costs, and how it pays off—and you'll know exactly how RockIT can help you ship it.

RockIT Motto:

No one has ever been fired for purchasing Cisco.

Dear Reader

You run a network that keeps real things moving. Steel, grain, chemicals, packaging—whatever your line makes, downtime is the universal villain. You know the feeling: Wi-Fi goes weird near the racks, a mystery switch appears under a conveyor, a vendor asks for "that shared VPN," and finance wants to know why an hour offline feels like a car payment for a small fleet.

Here's the truth we've learned walking factory floors: most manufacturing networks don't fail dramatically; they drift into risk. Flat VLANs grow flatter. Passwords get shared. 'Temporary' becomes permanent. And then one Tuesday, a barcode scanner trips over an HMI and your MES throws a tantrum.

This guide is your antidote to drift. We're going to map what you've got, name the risks (in plain English), and stack Cisco solutions in an order that respects production windows and budgets. When we say, no one has ever been fired for purchasing Cisco, it's because reliability is not a slogan here—it's the plan.

Between chapters, you'll find worksheets—quick, useful pauses to turn insight into action. Fill them in, and by the last page you'll have a phased roadmap your stakeholders can say yes to, with numbers that make sense.

— RockIT

Part 1

The Real-World State of Manufacturing IT (in 5 Minutes)

What's going on right now

- **IT + OT convergence**: Your ERP, MES, and historian care deeply about what's happening on the line. The line cares deeply about not going down.
- **More connected things**: PLCs, HMIs, robots, sensors, scanners—plus the laptops, tablets, and badge readers that wander in and out of VLANs like they own the place.
- **Security stakes**: Ransomware, lateral movement, and accidental "oops-I-plugged-in-a-thing" are the new unplanned downtime.
- **Pressure to do more with less**: Headcount is flat. Expectations aren't.

What "good" looks like

- **Reliable wired & wireless** that survives forklifts, metal racks, and RF noise.
- **Segmentation** so one infected kiosk doesn't high-five your PLCs.
- **Visibility** so you can answer "what changed?" in minutes, not meetings.
- **Zero-trust** access for users, devices, and vendors.
- **Simple operations** with automation and templates instead of 2 a.m. CLI archaeology.

Part 2

Quick Self-Assessment: Where Are We Today?

Reality Check:

Before proposing anything, you needs a snapshot. Not perfection—direction. This section creates the "you are here" map in under an hour and sets the talking points for leadership.

How these worksheets help:

- Turn gut feelings into simple scores and dollar figures.
- Expose blind spots.
- Produce artifacts you can drop straight into a deck or a ticketing system

2.1 Network Health Snapshot (Scorecard)

Why this worksheet: Provides a fast, comparable score across core areas so you can prioritize work without debating opinions. Anything ≤3 becomes a candidate for the first 90-day plan.

How to complete it:
1. For each row, read the prompt in "Questions to Ask."
2) Assign a score from 1 (uh oh) to 5 (rock solid).
3) Jot quick notes on issues or examples.
4) Add your total and circle anything ≤3.

Area	Questions to Ask	Score (1-5)	Notes
Core & Distribution	Redundancy? Spanning Tree drama? Links saturated?		
Edge Switching	Managed? Consistent firmware? Per-port policies?		
Wireless	Coverage in aisles? Roaming? Interference managed?		
OT/IT Segmentation	Separate zones? ACLs/SGT? Vendor access controlled?		
Internet/SD-WAN	Dual providers? QoS for critical apps?		
Visibility & Monitoring	Can we see device types, flows, and changes?		
Security Controls	Firewalling, DNS security, MFA, posture checks?		
Backup & Config Mgmt	Golden configs? Automated backups?		
Change Process	Standard methods/maintenance windows?		

Total Score: ____ / 45 **Maturity Level:** □ Starter □ Scaling □ Stable □ Optimized

2.2 Downtime Cost Calculator

Why this worksheet: Converts technical pain into budget language. This is the number executives remember and the baseline for ROI.

How to complete it:
1. Grab production and labor numbers from finance or your MES.
2. Estimate average hours per outage and events per quarter.
3. Do the simple multiplication below.
4. Save the total—use it in ROI later.

- Average hourly production value: $________
- Average hourly labor cost during downtime: $________
- Average hours of unplanned downtime per event: ________
- Events per quarter: ________
- **Estimated quarterly downtime cost = (Production + Labor) × Hours × Events→ $________ per quarter**

2.3 "What's Plugged In?" Mini Inventory

Why this worksheet: Unknown assets create unknown risk. Start light; perfect later. Even 60% complete reveals surprises you can act on.

How to complete it:
1. Walk the floor (or pull from existing CMDB/spreadsheet). 2) List zones and device types; count what you can. 3) Mark "Critical?" for anything that stops production if offline. 4) Note firmware if known; highlight blanks for discovery.

Zone	Device Type	Count	Critical? (Y/N)	Firmware Known?	Notes
OT Cell A	PLCs				
OT Cell B	HMIs				
Warehouse	Scanners & Printers				
Plant	Cameras				
Office	Laptops/VoIP				

2.4 Risk Finder Checklist

Why this worksheet: A quick pattern-matcher for common, high-impact risks we see in plants every week. Checking even a few boxes justifies a phased plan.

How to complete it:

1. Read each item and check what applies today.
2. Star the top three that matter most.
3. Move those into the Priority Planner in Part 4.

□ Flat network (IT + OT cozy together)
□ Shared passwords/accounts for vendors
□ Unknown Wi-Fi SSIDs / consumer APs
□ No MFA for remote access
□ Configs not backed up / not versioned
□ Single Internet circuit
□ Switches older than your favorite classic rock album
□ "We'll patch it next shutdown" (famous last words)

Part 3

Match Problems to Cisco + RockIT Solutions

Pick what you need. Mix & match.

Your Need	Cisco Building Block	What It Does (Simple)	RockIT's Role
Rugged, stable switching for the floor	Cisco Industrial Ethernet (IE) & Catalyst	Hardened, redundant, policy-ready switching	Design, BOM, install, cutover with rollback
Strong, predictable Wi-Fi	Cisco Catalyst/Meraki Wireless (Wi-Fi 6/6E)	Coverage, roaming, RF management	Site survey, heatmaps, tuning
Segment IT/OT & stop lateral movement	Cisco ISE + TrustSec / VLANs + ACLs	Identity-based access and micro-segmentatio n	Identity design, policy templates, deployment
Safer Internet & malware filtering	Cisco Umbrella (DNS-layer)	Blocks bad domains & C2 before connection	Policy design, roll-out by site, reporting
Modern firewalling & IPS	Cisco Secure Firewall / Meraki MX	App-aware protection, VPN, IDS/IPS	Rule design, HA setup, change windows
Vendor & user access with MFA	Cisco Duo	MFA, device trust, risk-based access	Integrations (VPN, RDP, SSH, web apps)
SD-WAN for resilience & performance	Cisco Catalyst SD-WAN / Meraki SD-WAN	Uses multiple links smartly, QoS for apps	Design, overlay build, templates
See every device & flow (OT included)	Cisco Cyber Vision + ThousandEyes	Asset discovery + digital experience monitoring	Sensor placement, dashboards, alerts
Centralized policy & automation	Cisco Catalyst Center / Meraki Dashboard	Templates, compliance, zero-touch ops	Day-0 to Day-2 runbooks, guardrails
Rapid detection & response	SecureX integrations	Correlates alerts, speeds investigations	Playbooks, SOC handoff, tuning

Not sure which path? Use the **Road-Map Builder** (Part 4) to stack these in the right order.

Part 4

Your 90/180/365-Day Road Map

The Whiteboard at 7:12 a.m.
The plant isn't awake yet, but the whiteboard is. Boxes, arrows, and a coffee ring that looks suspiciously like a maintenance window. Time to turn scattered notes into a map that respects shift changes and sanity.

Reality Check:

With scores, costs, and inventory in hand, you can build a plan a plant manager will love: fix the worst risks first, avoid production hits, and schedule changes in planned windows.

How these worksheets help:

- **Priority Planner** turns findings into a sequenced backlog.
- **Dependency Map** prevents rework and surprise outages.
- **RACI** sets expectations so tickets don't stall in limbo.

4.1 Phase Goals

- **Days 0-90 — Stabilize & See** Get redundancy, backups, monitoring, and MFA in place.
- **Days 91-180 — Segment & Secure** Introduce identity-based access, clean up VLANs, deploy Umbrella / Firewall updates.
- **Days 181-365 — Optimize & Automate** SD-WAN rollout, wireless refresh, templates, dashboards that people actually read.

4.2 Priority Planner

Why this worksheet: Forces clarity on "why now" and who owns what. If you can't fill out the Owner and Risk columns, it's not ready for the next window.

How to complete it:
1. List initiatives from Part 2 findings.
2. Write a short "Why Now."
3. Assign an owner and effort (S/M/L).
4. Describe the risk if delayed.
5. Pick a target date tied to a real maintenance window.

Why this worksheet: Forces clarity on "why now" and who owns what. If you can't fill out the Owner and Risk columns, it's not ready for the next window.

Initiative	Why Now	Owner	Effort (S/M/L)	Risk if Delayed	Target Date

4.3 Dependency Map (Because Order Matters)

Why this worksheet: Order saves weekends. Do discovery and guardrails before segmentation; do segmentation before SD-WAN; do SD-WAN before big Wi-Fi refreshes.
How to complete it:
1. Copy your initiatives from the Priority Planner.
2. Place prerequisites first (inventory, backups, MFA).
3. Sequence the rest so each step enables the next.
4. Share with OT/Safety for sanity-check.

Why this worksheet: Order saves weekends. Do discovery and guardrails before segmentation; do segmentation before SD-WAN; do SD-WAN before big Wi-Fi refreshes.

- **Pre-Reqs**: Inventory → Backups → MFA → Change window
- **Then**: Core redundancy → Edge standardization → Segmentation → Internet/SD-WAN
- **Finally**: Wireless refresh → Automation → Experience monitoring

4.4 Simple RACI (Print This)

Why this worksheet: Keeps IT/OT/Sec aligned during changes so production doesn't get surprised. Pin it to the CAB ticket.
How to complete it:
1. List tasks for the next phase.
2. Mark R (Responsible), A (Accountable), C (Consulted), I (Informed).
3. Review with the teams before the change.

Typical tasks to include:
- Discovery & Design
- Procurement
- Change Control
- Cutovers
- Post-Change Validation
- Ongoing Monitoring

Task	Vendor	IT	OT	Security
Discovery & Design				
Procurement				
Change Control				
Cutovers				
Post-Change Validation				
Ongoing Monitoring				

Part 5

Financial Planning & Justification Toolkit

Reality Check:

Finance will ask for a 3-year outlook and ROI. These pages become your budget appendix—simple enough to read, concrete enough to approve.

How these worksheets help:

- **TCO Worksheet** captures all costs so nothing "appears" later.
- **Value Buckets & ROI** translate technical wins into dollars.
- **Budget Timeline** maps spend to phases and shutdowns.

5.1 Cost Buckets (Estimate Ranges)

- **Hardware/Software:** switches, APs, firewalls, licenses
- **Services:** design, implementation, testing, documentation
- **Support:** maintenance, managed services, training

5.2 TCO Worksheet (Fill-In)

Why this worksheet: Surprises kill projects. This gives leadership the full picture—hardware, services, licenses, training—so approvals stick.

How to complete it:
1. Add rough costs for each category (Year 1–3).
2. Include support/licensing terms.
3. Note assumptions in "Notes."
4. Total it and carry to the ROI page.

Why this worksheet: Surprises kill projects. This gives leadership the full picture—hardware, services, licenses, training—so approvals stick.

Category	Year 1	Year 2	Year 3	Notes
Hardware/Software	$_______	$_______	$_______	
Services (RockIT)	$_______	$_______	$_______	
Support & Licenses	$_______	$_______	$_______	
Training	$_______	$_______	$_______	
Total	$_______	$_______	$_______	

5.3 Value Buckets (Where Savings Come From)

- **Downtime avoided** (use your number from Worksheet 2.2)
- **Fewer incidents** (malware/phishing/unauthorized access)
- **Operational efficiency** (templates, zero-touch, faster change windows)
- **Performance gains** (throughput, roaming, app QoS → output

5.4 ROI Sketch (Keep It Simple)

Why this worksheet: You don't need a PhD model. A clear, conservative ROI beats a complicated maybe. Use your downtime number from Worksheet 2.2.

How to complete it:
1. Estimate annual benefits using the Value Buckets.
2. Add up 3-year costs from the TCO Worksheet.
3. Calculate ROI with the formula shown.
4. Sanity-check with finance.

- **Annual Benefits** = Downtime avoided + Incident reduction + Efficiency gains + Output uplift
- **3-Year ROI** = (Total Benefits over 3 years – Total Costs over 3 years) ÷ Total Costs over 3 years

Plug numbers here: Annual Benefits: $________
3-Year Costs: $________
ROI: ________ %

5.5 Budget Timeline

Quarter	Big Rocks	Budget	Notes
Q1	Stabilize & See	$_______	
Q2	Segment & Secure	$_______	
Q3	SD-WAN & Wireless	$_______	
Q4	Automate & Optimize	$_______	

Tip: Align cutovers with planned shutdowns. Future you will send past you a thank-you cupcake.

Part 6

Stakeholder Pack: Slides You Can Steal

The Conference Room Countdown
Laptops open, someone's ringtone pretending to be a classic rock riff, and the clock starting its quiet metronome. You've got one slide to make the room nod. Let's make it count.

6.1 One-Slide Executive Summary (Template)

- **Problem:** Unplanned downtime costs ~$____/qtr; limited visibility; flat IT/OT network.
- **Solution:** Cisco reference design—segmentation, secure access, resilient WAN, modern wireless.
- **Value:** Est. ROI ____% in 36 months; reduced risk; faster change velocity
- **Plan:** 90/180/365 days with RockIT as delivery partner.

6.2 Objections & RockIT-Ready Responses

- **"Cisco costs more."** Yes, and it costs less to run. Better uptime, fewer incidents, longer lifecycle, and strongest partner ecosystem.
- **"Too complex for our team."** We template, automate, and train. You keep control; RockIT handles the heavy lifting.
- **"Can we phase this?"** Absolutely. Start where risk is highest; expand as benefits land.
- **"What if something breaks?"** HA designs, maintenance windows, tested rollbacks, and RockIT on call.

6.3 Success Metrics (Make Them Incredibly Clear)

- Unplanned downtime events ↓ __%
- Mean time to identify (MTTI) ↓ __%
- Critical app performance SLO met __%
- Time to provision a new line/area ↓ from days to hours
- Compliance: configs & images __% in policy

Part 7

Worksheets That Do the Heavy Lifting

Reality Check:

Time to execute. These are the exact forms we use with manufacturing clients to drive clean changes and keep auditors, ops, and security happy.

How these worksheets help:

Each worksheet includes a quick "What this does" so you can print and go.

7.1 Segmentation Planner (Fill-In)

What this worksheet does: Defines who can talk to whom—and how—so an infected kiosk can't dance with your PLCs. Start with three zones; expand later.

How to complete it:
1. List your zones (Enterprise, OT-Control, Vendors, etc.).
2. Fill in device types and trust levels.
3. Specify allowed communications.
4. Choose method (VLAN/SGT) and assign an owner.

What this worksheet does: Defines who can talk to whom—and how—so an infected kiosk can't dance with your PLCs. Start with three zones; expand later.

7.2 Change Window Template

What this worksheet does: Creates a single source of truth for every change: impact, backout, approvals, and timing. Perfect for CAB and audits.
How to complete it:
1. Describe the change and impact in one sentence each.
2. Write a simple backout plan.
3. Get approvals (IT/OT/Sec).
4. Lock the window to a low-risk time.

What this worksheet does: Creates a single source of truth for every change: impact, backout, approvals, and timing. Perfect for CAB and audits.

- **Change:** ____
- **Impact:** ____
- **Backout Plan:** __________________________________
- **Approval:** IT □ OT □ Security □
- **Maintenance Window:/** from **:** to **:**

7.3 Policy-as-Template (Copy/Paste to Ticket)

What this worksheet does: Standardizes per-port/per-device policy so your edge stays consistent as people move and things get replaced.

How to complete it:
1. Pick the device type (line device, camera, HMI, user).
2. Set authentication (802.1X/MAB).
3. Apply VLAN/SGT and ACL from your standards.
4. Note QoS and logging.
5. Tag for compliance.

What this worksheet does: Standardizes per-port/per-device policy so your edge stays consistent as people move and things get replaced.

- Port role: ____(line device / camera / HMI / user)
- Auth: ____(802.1X/MAB)
- VLAN/SGT: ____
- ACL: ____ (link to standard)
- QoS: ____
- Logging: ____(NetFlow/syslog)
- Compliance tag: ____

Zone	Devices	Trust Level	Allowed To Talk To	Method (VLAN/SGT)	Owner

7.4 Vendor Access Request

What this worksheet does: Puts time-boxed, MFA-guarded guardrails around third-party access. No more “shared VPN account” roulette.

How to complete it:
1. Capture who/what/when (person, device, time window).
2. Define scope precisely.
3. Require Duo MFA.
4. Enable session recording where possible.
5. Tie to a change/ticket.

What this worksheet does: Puts time-boxed, MFA-guarded guardrails around third-party access. No more “shared VPN account” roulette.

- Company: ____________
- Person: ____________
- Device fingerprint: ____________
- Time window: ____________
- Access scope: ____________
- MFA: Duo □ Required
- Recording: □ Enabled
- Ticket #: ____________

7.5 Site Cutover Checklist

What this worksheet does: Reduces day-of jitters by making success criteria explicit. If you can’t check these boxes, you don’t cut over.

How to complete it:
1. Walk through each item 48 hours before cutover.
2. Re-check 1 hour prior.
3. Capture validation screenshots after.
4. Schedule the post-change review.

What this worksheet does: Reduces day-of jitters by making success criteria explicit. If you can’t check these boxes, you don’t cut over.
□ Pre-staged configs validated
□ Images checked/signed
□ Links labeled & tested
□ Rollback file ready
□ Smoke tests defined (ping, app, barcode scan, HMI)
□ Stakeholders notified
□ Change complete + validation screenshots attached
□ Post-change review scheduled

Quiet Networks, Loud Results

The best networks don’t ask for attention. They let scanners scan, HMIs hum, and shifts change without a hiccup. That quiet is the sound of clear segmentation, sane policies, and resilient links doing exactly what they’re supposed to do.

Part 8

Why Cisco + Why RockIT

After the Cutovers:

Tickets get quieter. Roaming gets boring (the good kind). Vendor access happens with guardrails instead of crossed fingers. The most welcome sentence in manufacturing IT: "We don't have to think about the network anymore."

Why Cisco for Manufacturing

- **Proven at scale** in the no-downtime world
- **Deep OT visibility & control** with identity-based access
- **Security layered in** from DNS to data center to the shop floor
- **Operational simplicity** with dashboards, templates, and automation
- **Ecosystem & longevity** that protect your investment
- Translation: Cisco gives you reliability you can build on—and a platform your team won't outgrow.

Why RockIT

- Manufacturing-savvy delivery: We plan around shifts, shutdowns, and safety.
- Blueprints, not experiments: Reference architectures that work on real floors.
- Change without chaos: Rollback plans, validation scripts, and post-cutover care.
- Train-as-we-go: Your team learns with us; our goal is a confident handoff.
- Managed services: Monitoring, patching, reporting, and "call us before it's a fire."
- Call to Action:Bring your worksheets and meet with one of RockIT's Cisco specialists! We'll validate, right-size, and phase a Cisco design with dates and dollars your stakeholders can approve on the first pass. Then we'll implement it together—quietly, safely, and on your schedule.
- RockIT x Cisco:Ship reliability. Reduce risk. Make downtime unheard of.