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Aligning IoT Ambitions With Capabilities in the Midmarket

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So if MSEs cannot add FTE resources, how can they innovate?

Follow These Four Steps

1. Step 1: Make Time to Innovate — Free Up FTE Time
2. Step 2: Innovation Project (Management)
3. Step 3: Use a Framework to Classify Opportunities
4. Step 4: Seek End-to-End Solutions

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Step 1: Make Time to Innovate — Free Up FTE Time

- Seek easier solutions:
 - Less reliance on specialist skill sets
 - Reduce risk of impact to operations from employee turnover
 - Free up FTEs to do other differentiating things — like innovate
- Tactically invest in newer tech rather than maintaining old:
 - New autonomous tech doesn't need vacation or get sick
 - If prices drop simply paying maintenance is poor TCO
- SSAs, backup/recovery, HCI, ITOM

Culture Changes Are Big Barriers — How to Overcome Them?

Barriers to Scaling Digital Initiatives



Stage Of Digital Maturity

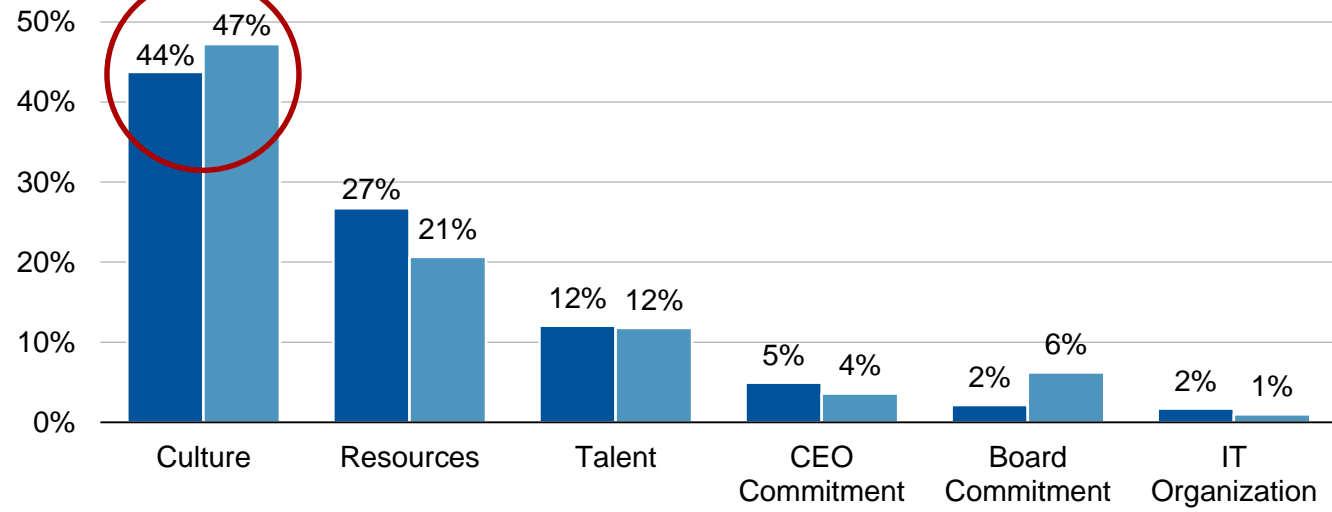
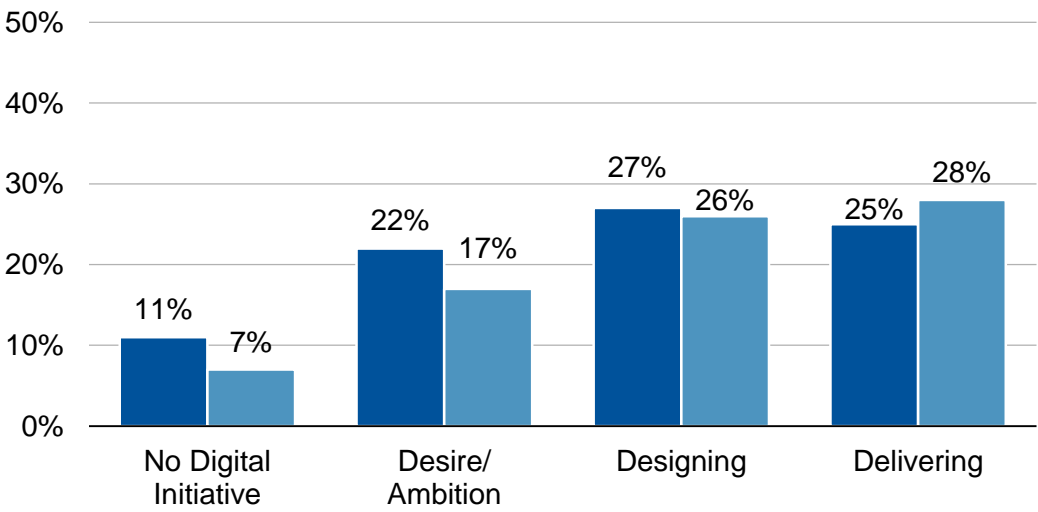
Biggest Barriers to Scale Play

■ North America SME (n = 642) ■ Europe SME (n = 439)

■ North America SME (n = 464) ■ Europe SME (n = 305)

Percentage of Respondents

Percentage of Respondents



Base: All answering, excludes DK, n varies by segment
 Which of these best describes the stage of your organization's digital initiative — i.e., your organization's digitalization efforts?

Base: Respondents in the desire, designing or delivering stages, excludes DK, n varies by segment;
 Note: Respondents in the top performers group did not see this question.
 What do you think is your organization's biggest barrier to move from the initial phases of digital business transformation to scale?

Make Time to Innovate — Culture

- Leverage and develop versatilists
- Mature, measure and revisit:
 - IT optimization is an ongoing project
 - Not only about cost optimization
- Be available to the business leaders:
 - Make time for conversations (office drop-in, hallway, coffee machine)
 - Actively develop relationships with business
 - This two-way street helps identify potential partners/projects

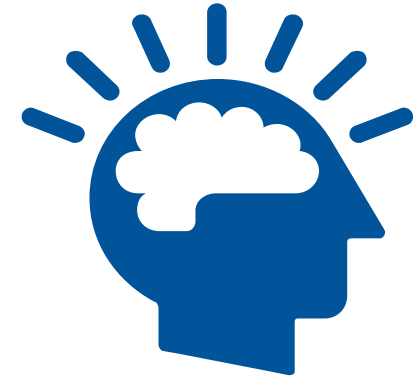


Four Steps

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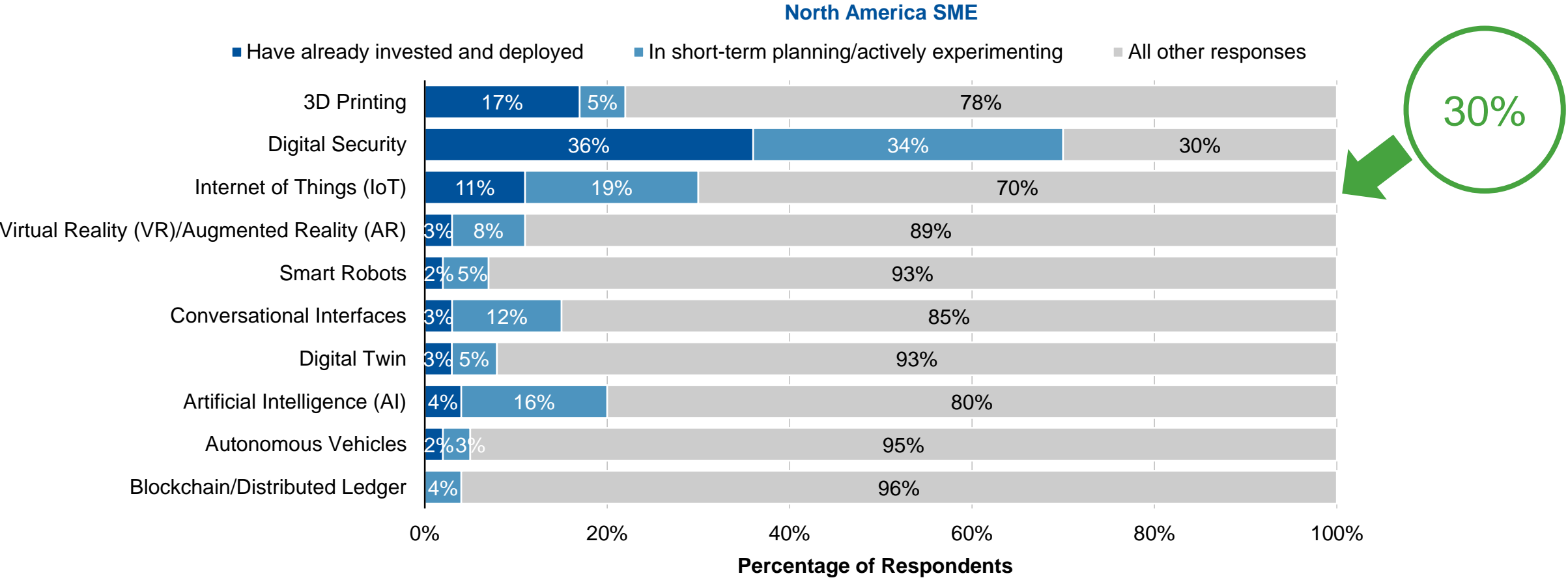
Step 2: Innovation Project (Management)

- Involve usual suspects — heavy hitters who are busy:
 - Network and I&O
 - Proven early adopters
- Select business leaders (can be temporary):
 - Identify if OT is already deployed (lessons learned)
- Augment with temporary external resources
- FTE time: 70% run/30% projects:
 - This is why IT optimization is important
 - Any "new" project is lucky if it gets 10%
- Effective project management is paramount



IoT as an Innovation Project — How Does Your Company Stack Up?

Plans for Emerging Technologies, 2018



Base: Region is North America and annual revenue is <\$1B, excludes DK, n = 669
 What are your organization's plans in terms of the following digital technologies and trends?

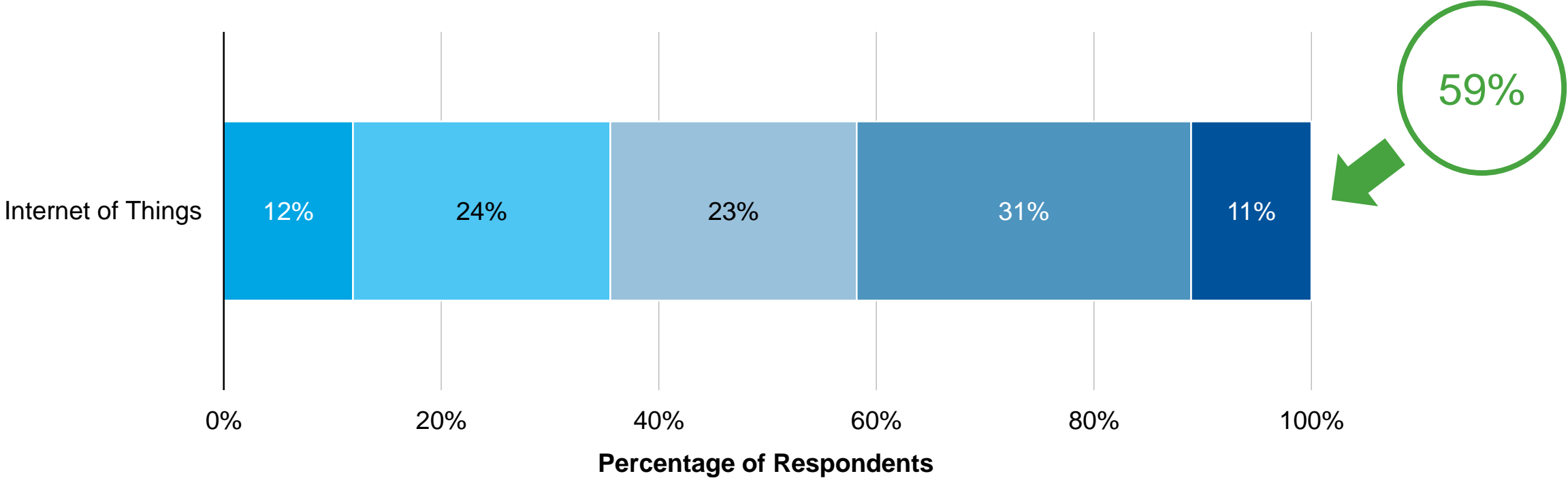


Now, What If We Include All Size Organizations and Medium/Long Term?

Plans for Internet of Things, 2018

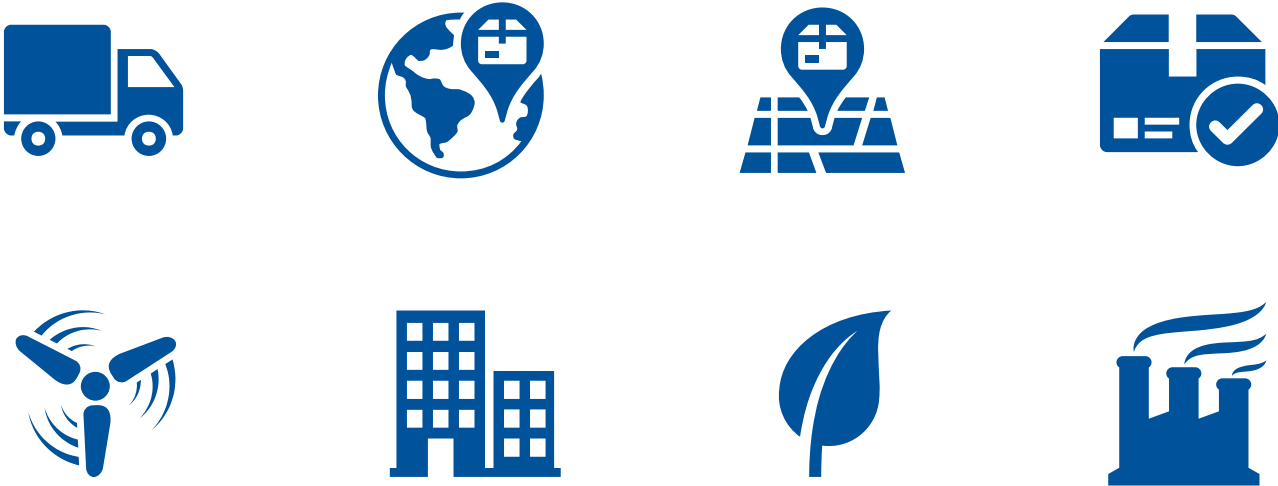
■ Have already invested and deployed ■ In short-term planning/actively experimenting ■ In medium- or long-term planning

■ On the radar, but no action planned ■ No interest



Base: Respondents to the 2018 Gartner CIO survey, excludes DK, n = 3,138
What are your organization's plans in terms of the following digital technologies and trends?

Internal vs. External IoT



Logistics
and supply

Remote
asset
monitoring

Agriculture

HVAC
Industrial

Industrial

External IoT is essentially a connected product that is sold to consumers

IoT Traps Proceed With Caution



- Cyberphysical systems.
- Blind spot and potential entry point.
- Physical damage or death possible:
 - Attacks at refineries in Saudi Arabia.
- Financial damage and major user discomfort:
 - HVAC outage due to DDoS = no heat.
- Assess results of outage or unavailability!

**Not all ideas are
worth the effort.**

**Think
it through!**



Data Management Implications — With the stakeholder

- Helps identify potential risk
- Purpose of the data collection:
 - Local control systems
 - Other business process management
 - Workflow decision making
- Business moments (events/processes) being supported and information supply chain for those business moments
- Assure configuration of sensors/actuators achieves the same

Identify Tasks, Imagine Eventualities and Fill Gaps

- Augment with temporary external resources:
 - Security auditor
 - Solution design
 - Professional services from the vendor
- Update network segmentation concept (if applicable)
- Plan potential for unplanned IoT pivot:
 - IoT is still very fluid with evolving standards (NIST)
 - ROI in one year or less minimizes exposure
- Third-party risk assessment:
 - Failure, sabotage, or botnet hijacking

Secure by Design

- Simplified device enrollment:
 - Factory ready
 - On-site enrollment
 - Platforms
- Secure comms. even when physical security is not possible
- Device management
- IAM
- Third-party penetration testing

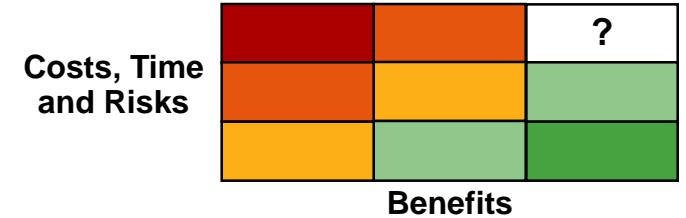
Four Steps

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Step 3: Use a Framework to Classify Opportunities

For each opportunity generated:

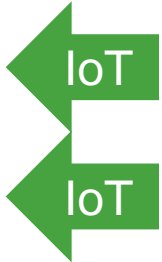
- What's the upside?
- Is it worth the effort?



Potential Benefit: <ul style="list-style-type: none"> ▪ How big is the saving if the action is implemented and how does it affect cash flow? 	Small	Medium	Large
Business Impact: <ul style="list-style-type: none"> ▪ What impact will this have on the business? 	Negative	None	Positive
Time Requirement: <ul style="list-style-type: none"> ▪ Can you capture the savings in this fiscal year? 	>18 months	6 to 18 months	<6 months
Degree of Organizational Risk: <ul style="list-style-type: none"> ▪ Will your leaders ensure the changes are made? ▪ Is your organization capable of adapting to the changes? 	High; staff redundancies, and re-engineering of processes and structures	Moderate; limited changes in roles, structures, and processes	Low; no staff reduction, nor changes in organization and processes
Degree of IT Technical Risk: <ul style="list-style-type: none"> ▪ Is there a risk that the change will undermine the ability of your systems to deliver? 	High; impacts OS, DB, middleware and applications	Moderate; impacts few components of the architecture	Low; little more than "moving boxes"
Investment Requirement: <ul style="list-style-type: none"> ▪ Does the change require a large upfront investment before savings can be captured? 	High	Moderate	Low/None

Add Internal IoT Specific Categories

Potential Benefit: <ul style="list-style-type: none"> How big is the saving if the action is implemented and how does it affect cash flow? 		Medium	Large
Business Impact: <ul style="list-style-type: none"> What impact will this have on the business? 			Positive
Time Requirement: <ul style="list-style-type: none"> Can you capture the savings in this fiscal year? 	>18 months	6 to 18 months	<6 months
Degree of Organizational Risk: <ul style="list-style-type: none"> Will your leaders ensure the changes are made? Is your organization capable of adapting to the changes? 		Moderate; limited changes in roles, structures, and processes	
Degree of IT Technical Risk: <ul style="list-style-type: none"> Is there a risk that the change will undermine the ability of your systems to deliver? 		Moderate; impacts few components of the architecture	
Investment Requirement: <ul style="list-style-type: none"> Does the change require a large upfront investment before savings can be captured? 		Moderate	
Degree of Physical Risk: <ul style="list-style-type: none"> If these systems are hijacked or unavailable, what are possible outcomes? 		Moderate, outage would (depends)	
Degree of Financial Risk: <ul style="list-style-type: none"> If these systems are hijacked or unavailable, what are possible outcomes? 		??	



Then, Examine How to Make This Look Better



Potential Benefit:

- How big is the saving if the action is implemented and how does it affect cash flow?

Medium

Time Requirement:

- Can you capture the savings in this fiscal year?

>18 months

6 to 18 months

Degree of IT Technical Risk:

- Is there a risk that the change will undermine the ability of your systems to deliver?

Moderate; impacts few components of the architecture

Degree of Physical Risk:

- If these systems are hijacked or unavailable, what are possible outcomes?

Retain redundant physical controls and checks

Degree of Financial Risk:

- If these systems are hijacked or unavailable, what are possible outcomes?

??

Careful Choices Can Improve the Picture



Potential Benefit: <ul style="list-style-type: none"> How big is the saving if the action is implemented and how does it affect cash flow?
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Medium	Large
	Positive
6 to 18 months	<6 months
Moderate; limited changes in roles, structures, and processes	
Moderate; impacts few components of the architecture	Low; little more than "moving boxes"
Moderate	
	Retain redundant physical controls and checks
??	

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Step 4: Seek End-to-End Solutions



- How are risks mitigated?
- Device enrollment and management must be straightforward and integrated.
- Should not involve extensive customization.
- Seek platforms.
- Partner with providers who will guarantee ROI (shared risk).
- The IT admin. with the screwdriver who says he can support it:
 - Maybe he can, but how much time and resources does that take?

Top Recommendation: Control What You Can



Pick Your Battles

Select end-to-end solutions from proven providers with well-established vertical-specific use cases, and only target solutions where the ROI is achievable in the first year.

Action Plan for MSEs Considering IoT Deployments

Monday Morning:

- *Find out* if OT (industrial IoT) is deployed (eg., SCADA) — depends on vertical
- *Begin (or continue)* networking with the goal to go shopping for a partner in the business:
 - Start process of researching possibilities

Next 90 Days:

- *Make time to innovate:*
 - *Triage* old technology for IT optimization potential
 - *Leverage* and develop versatilists

Next 12 Months:

- *Find* an IoT vendor who can provide an end-to-end solution (perhaps with shared risk for success):
 - Update the opportunity framework based on vendor
- *Create* the framework to classify IoT opportunities together with business partner(s):
 - Don't forget the data management part as this will help identify risk
 - Identify what is needed to eliminate all red and mitigate yellow
 - First opportunity might be a skunkworks project just to get experience
 - Find one good security person (probably external)

Recommended Gartner Research

- ▶ [Five Key Actions for Midsize Enterprises to Improve Storage and Backup](#)
Robert Rhame (G00328102)
- ▶ [Midsize Enterprises: Applying the Most Relevant of Gartner's 2018 Strategic Technology Trends](#)
Joe Mariano, Alan D. Duncan, Robert Rhame and Others (G00346926)
- ▶ [Meet Storage Growth, Availability and Performance Challenges for Midsize Enterprises](#)
John McArthur, Robert Rhame and Others (G00322702)

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