E TECH GROUP

Beyond Automation and Control

IT/OT Assessments

How to Get Started on Improving Cybersecurity at Your Facility

(855) 202-1444
etechgroup.com

TABLE OF CONTENTS

I. INTRODUCTION TO IT/OT ASSESSMENTS

Introduction 1
What to Expect 2
The Benefits 3

II. CYBERSECURTY

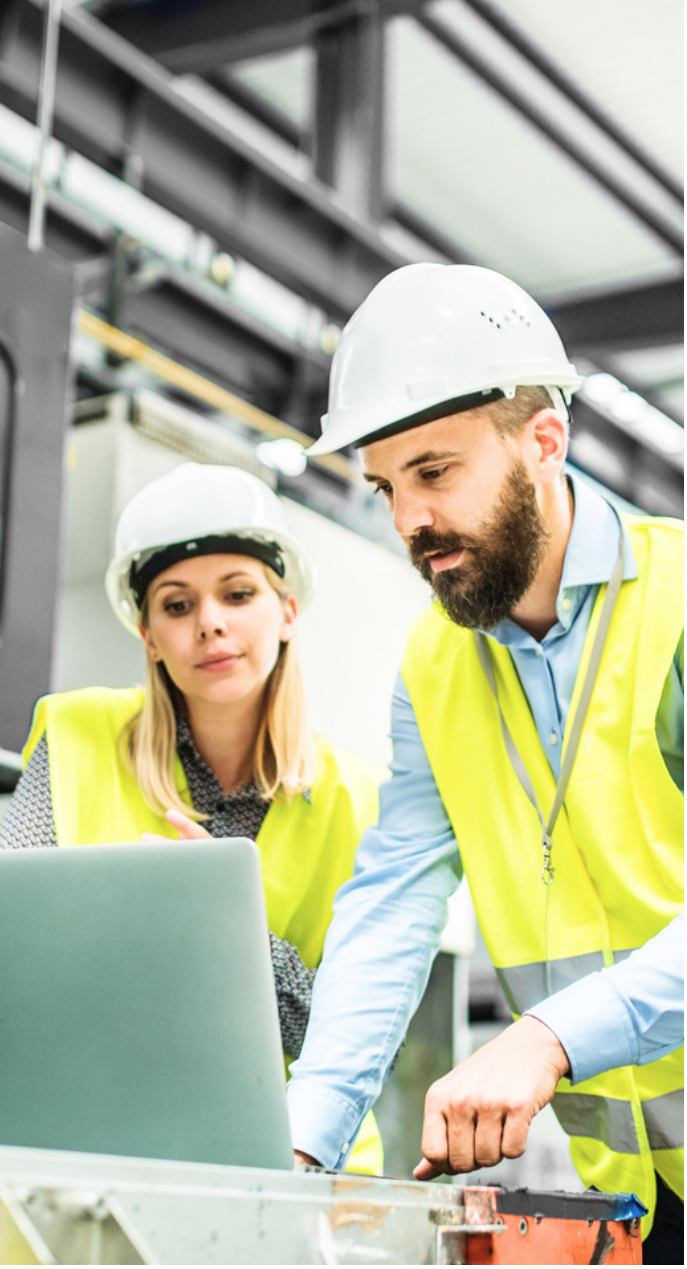
IT/OT Assessments & Cybersecurity 4

III. CASE STUDY

Introduction 5
Assess, Diagnose & Remediate Control System Concerns 6
Avoiding Complications of Large-Scale Obsolescence 7

IV. CONCLUSION

Testimonial 9
Contact Information 10



Connecting IT with OT

OT, operational technology, and IT, information technology, have been separate for manufacturers for the past 20-30 years. But as Industry 4.0 continues to grow and advancing technology provides new capabilities around visibility and data, IT and OT have started to converge.

Now, as more manufacturers are interested in connecting their processes to cloud solutions, they've run into new problems. Convincing operations to allow IT to perform patches or updates can be challenging, especially if it requires shutting down production. This can result in ad hoc and unpredictable solutions as issues arise, a variety of platforms from different vendors, improper maintenance practices, and other complications. In addition, as more assets are connected digitally, they're opened up to new cybersecurity risks.

It can be intimidating to know where to start; this eBook will help guide the heads of IT and operations on how.

What is the State of Your Facility? An IT/OT Assessment Is the Beginning of an Action Plan

While you may know that you have an outdated PLC, you might not know just how old it is. Or, maybe you don't know how many of your other assets are outdated and becoming obsolete. Do you know which machines are connected? Do you know which machines are capable of connecting to the cloud for digitalization?

By doing an IT/OT assessment, you can identify problem areas in your facility, receive an accurate inventory of the whole facility, and get the visibility you need for key decision-makers to make plans for the future.

Gaining a Roadmap with an IT/OT Assessment

An IT/OT assessment involves taking an inventory of all of a facility's control systems and infrastructure. At the facility, each panel is opened and photos are taken. Meanwhile, IT will scan the plant's network. With all of this information, an analysis is performed to rate each piece of equipment on site.

Mitigating the identified IT/OT risks is accomplished by creating a plan to update, scale, and streamline production. With this analysis, manufacturers can get next steps to take to automate and update their facility.

What Happens During an IT/OT Risk Assessment and Analysis?

1. An E Tech resource will come on-site to your facility to walk the entire floor, open every control panel, and take photos of it. The length of this process depends on the size of the facility and the complexity of the systems involved.

2. Off-site, an IT team member from E Tech will remotely scan the plant's network. All of this information will be documented and analyzed, culminating in a rating for each asset. Security and operational risks will be identified.

3. E Tech will create mitigation plans based on your results, needs, and budget

4. The next steps are entirely up to you: the report you receive will help you evaluate top priorities at your facility. E Tech will help you complete the remediation work, or you can tackle it internally.

The Benefits

- **Gain a roadmap to implement new standards at your facility**
- **Address vulnerabilities that you may not have known you had**
- **Improve cybersecurity and prepare for potential security threats**
- **Get a remediation prioritization list based on the highest levels of pain and vulnerability**
- **Gain a better understanding of your facility, assets, and the structure between IT and OT**

LOWER YOUR INSURANCE COSTS

Cybersecurity attacks are on the rise. Insurance to protect your facility in a ransomware event is not unheard of. But, depending on how secure your operations are, you might be facing high premiums with low coverage. Or worse, your operations have been deemed uninsurable.

An IT/OT assessment can be used to either:

A) prove to an insurance company that your operating system is at the level you claim it is to lower your insurance deductible

OR

B) create a plan to work towards a facility that is insurable

E Tech can help you prepare for an insurance audit.

Do You Know Who is Talking to Your Machines?

Many manufacturers don't know how vulnerable their operations are to an attack

*"A **cyberattack** isn't just **some 'boogieman'** used to instill fear: this is really happening to clients and **its very painful.**"*

While your IT team might be preparing for a cybersecurity attack on your network, are they prepared for your equipment to be attacked?

Malicious agents recognize that your operations are the core of your business; it's where you make your money. Are you prepared for a ransomware attack?

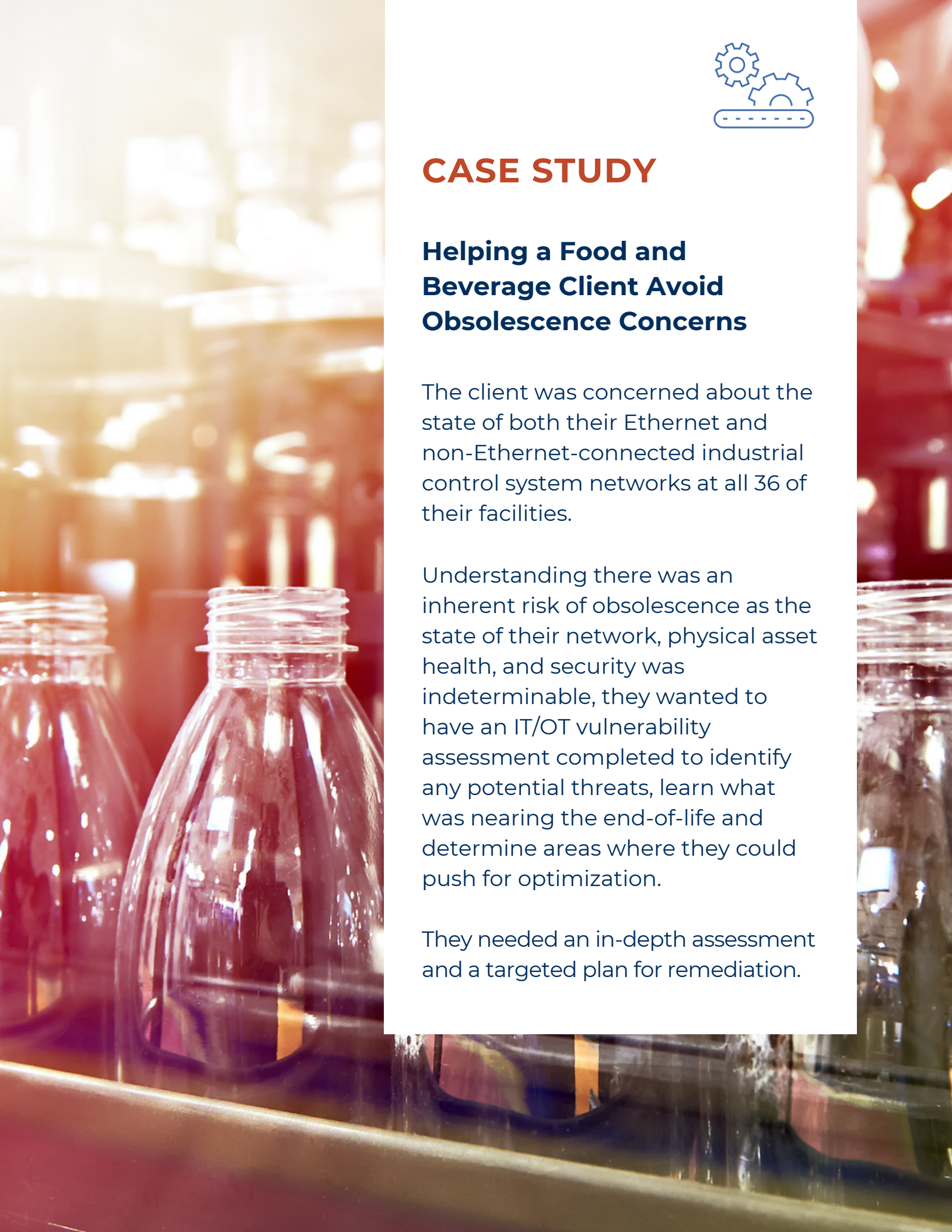
As Industry 4.0 introduces new technology that promises to increase visibility, give access to more data, and more, it also introduces new threats.

An IT/OT assessment takes a snapshot of your system as it is today and analyzes where you are. E Tech has found that many manufacturers know that they have problems, but they are surprised by just how open and vulnerable their systems are.

Reducing risk with a robust security network

To understand cybersecurity at your facility, you need to know what it is you're protecting. The first step to making your facility more secure is to get visibility. With an IT/OT assessment, you can see how your networks need to merge to get digitalization insights and identify the biggest vulnerabilities.

Protecting your OT side of the business is not as easy as just doing a security patch. For example, some PLCs can't be protected by anti-virus software. So, that means you have to build security around a device, and you cannot begin to do that if you don't know how your machines are currently connecting and what their status is.



CASE STUDY

Helping a Food and Beverage Client Avoid Obsolescence Concerns

The client was concerned about the state of both their Ethernet and non-Ethernet-connected industrial control system networks at all 36 of their facilities.

Understanding there was an inherent risk of obsolescence as the state of their network, physical asset health, and security was indeterminable, they wanted to have an IT/OT vulnerability assessment completed to identify any potential threats, learn what was nearing the end-of-life and determine areas where they could push for optimization.

They needed an in-depth assessment and a targeted plan for remediation.

Case Study:
Assess, Diagnose and Remediate Control System Concerns

E Tech knew the client's IT/OT assessment and subsequent project design needed to be competitive and cutting-edge while remaining attainable.

This assessment covered both a network-driven and physical on-site inventory and evaluation process. Once completed, the findings were rolled up into reporting that would be consumed from the corporate level down to the operations team.

For the network portion of the assessment, the client's IT team provided documentation around program files for the PLCs, HMIs, drives, and granted network vizios to view network topology. With limited network access and using different protocols, E Tech was able to show where the PLCs, HMIs, and drives were connected to the IT network. This allowed a deeper dive into the topology rather than just learning where the IT switches were.

Finally, the E Tech team worked to compile an asset inventory to help the client understand what equipment was currently living on their network and where it was in its lifecycle. This was a two-pronged process that required close collaboration between E Tech automation experts and the client's operations personnel to ensure that all bases were covered.

Network Assets to be Inventoried and Assessed:

- Network switches
  - (not including plant network IT devices, for example: Cisco)
- Routers
- Firewalls
- Servers
- PCs
- NATs
- HMIs
- PLCs
- VFDs
- IO racks
- Any other devices on a communication network

Case Study:

Assess, Diagnose, and Remediate Control System Concerns

Physical Assets to be Inventoried & Assessed:

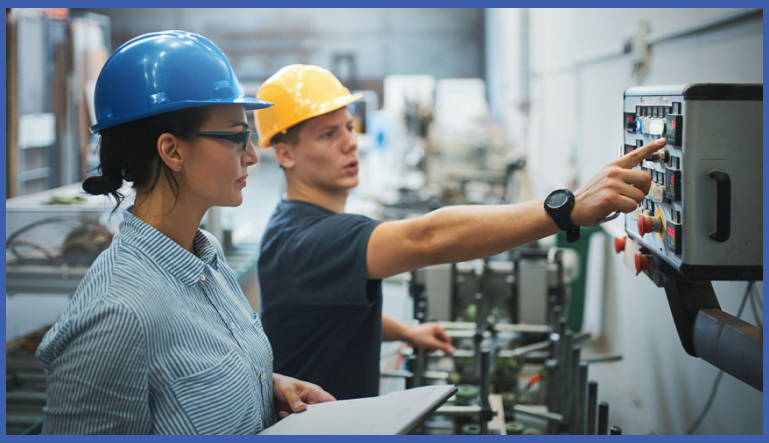
- Physical network infrastructure, for both Ethernet and non-Ethernet
- Physical topology & active device inventory
- Switch selection*
- Router selection*
- Communication configurations for Ethernet and non-Ethernet. (configuration, lost packets, collisions, etc.)
- Environmental conditions
- Enclosures
- Cable selection
- Cable management
- Conduit and routing
- Cable labeling
- Power redundancy
- Grounding

Network Assets to be Inventoried & Assessed:

- Network switches**
- Routers
- Firewalls
- Servers
- PCs
- NATs
- HMIs
- PLCs
- VFDs
- IO racks
- Any other devices on a communication network

**excluding IT infrastructure Cisco switches*

***excluding plant network IT devices, (for example: Cisco)*



E Tech Group team members are joined by facility engineers, technicians, and other staff to assist in locating the critical components to be identified, documented, and inventoried.

E Tech automation and IT engineers utilize the existing controls network logical infrastructure drawings to work swiftly, documenting and inventorying each panel and its contents.

Case Study:
Avoiding Complications of Large-Scale Obsolescence

Upon review, the client was painfully unaware that so many components were near the end of life or patchworked together to keep them running. This targeted view into their IT and OT systems helped them prioritize the next steps and allowed them to start working to proactively improve and maintain their network and asset health.

Using this initial work as a benchmark, the templated assessment will be scaled across all 36 sites, allowing for tailored plans of remediation.

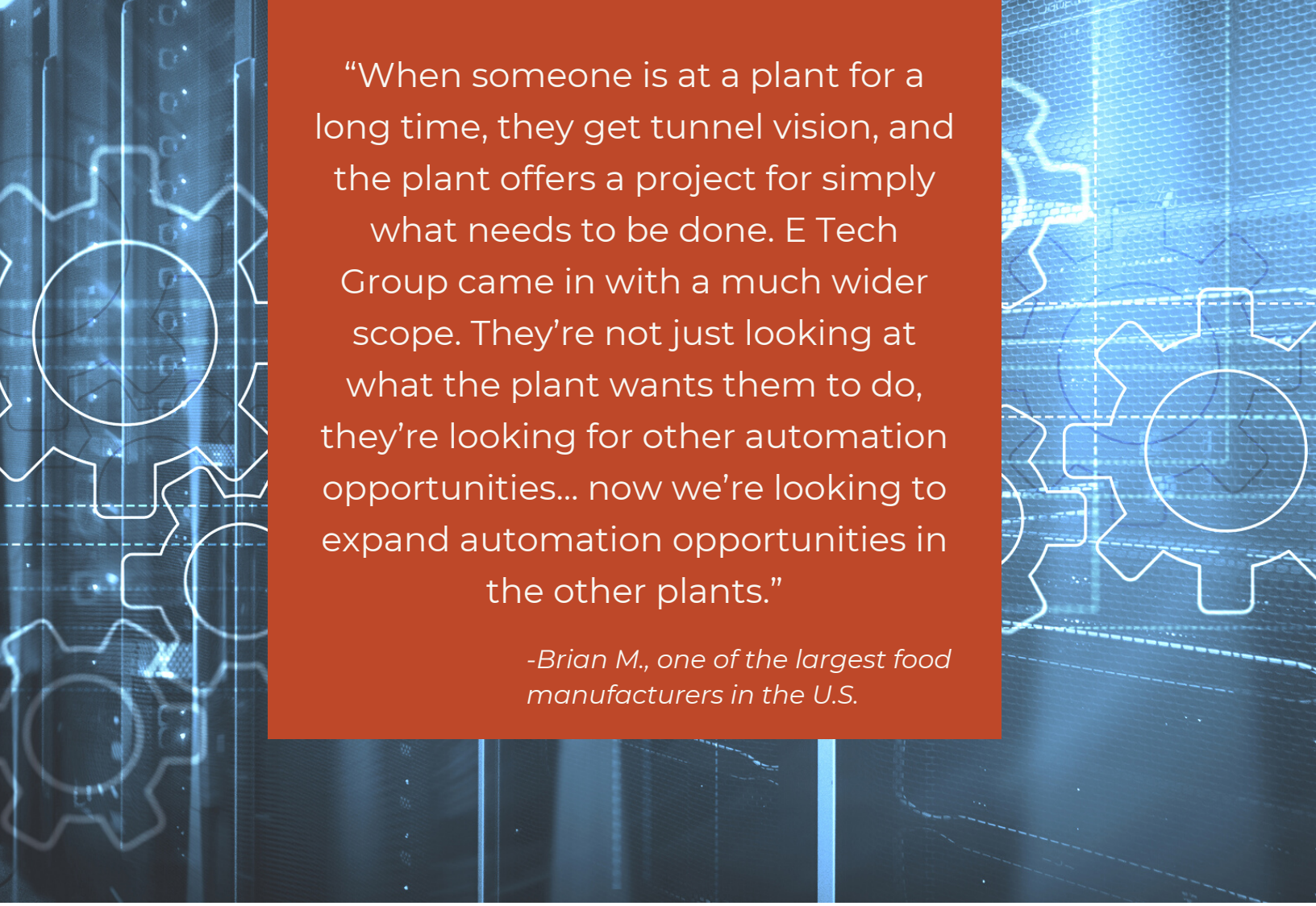
Long term, the client intends to implement a 3D model to monitor their network health and asset lifecycle. This system would allow them to utilize predictive maintenance for planned downtime that has the least impact on production, improving efficiency and uptime as upgrades are performed. With the client's goals in mind, E Tech Group outlined its first remediation plan:

Site 1 Phases of Remediation

- Consolidate network servers across all facilities
- Identify isolated assets not living on the network
- Migrate non-network-connected assets
- Implement connected shop floor cloud-based monitoring to track asset efficiency and network health

The E Tech team will continue to work through the remaining sites, utilizing the templated assessment to help build customized plans for remediation. Since these sites were acquired individually and over time, there are a wide range of equipment manufacturers and assets in various stages of their lifecycle.

Each facility will require a different type and extent of control system upgrade, which is why the assessment design was key in this process. Being able to re-use the assessment strategy across all sites will help in quickly identifying vulnerabilities and allow movement into the remediation process.



"When someone is at a plant for a long time, they get tunnel vision, and the plant offers a project for simply what needs to be done. E Tech Group came in with a much wider scope. They're not just looking at what the plant wants them to do, they're looking for other automation opportunities... now we're looking to expand automation opportunities in the other plants."

-Brian M., one of the largest food manufacturers in the U.S.

PLAN FOR THE FUTURE AND BEYOND

GAIN A STRATEGY AND ROADMAP FOR AUTOMATION AT YOUR FACILITY

With an IT/OT risk assessment, gain the visibility to prioritize the most important projects and plan for the future of your facility.

E Tech Group can not only perform the IT/OT risk assessment, but also can work closely with your team to design a remediation plan and execute all aspects of it. If your facility has goals around digitalization, scaling up, and increasing efficiency, an IT/OT risk assessment is a great place to start.

Process, Plan, and Progress

To be able to implement automation technology and solutions at your facility, you need to know where you're starting. An IT/OT assessment is a great place to begin your path to a modern, efficient facility.

Interested in learning more?
Contact the E Tech Group team below:

etgmarketing@etechgroup.com

1-855-202-1444

@Etechgroup

E TECH GROUP