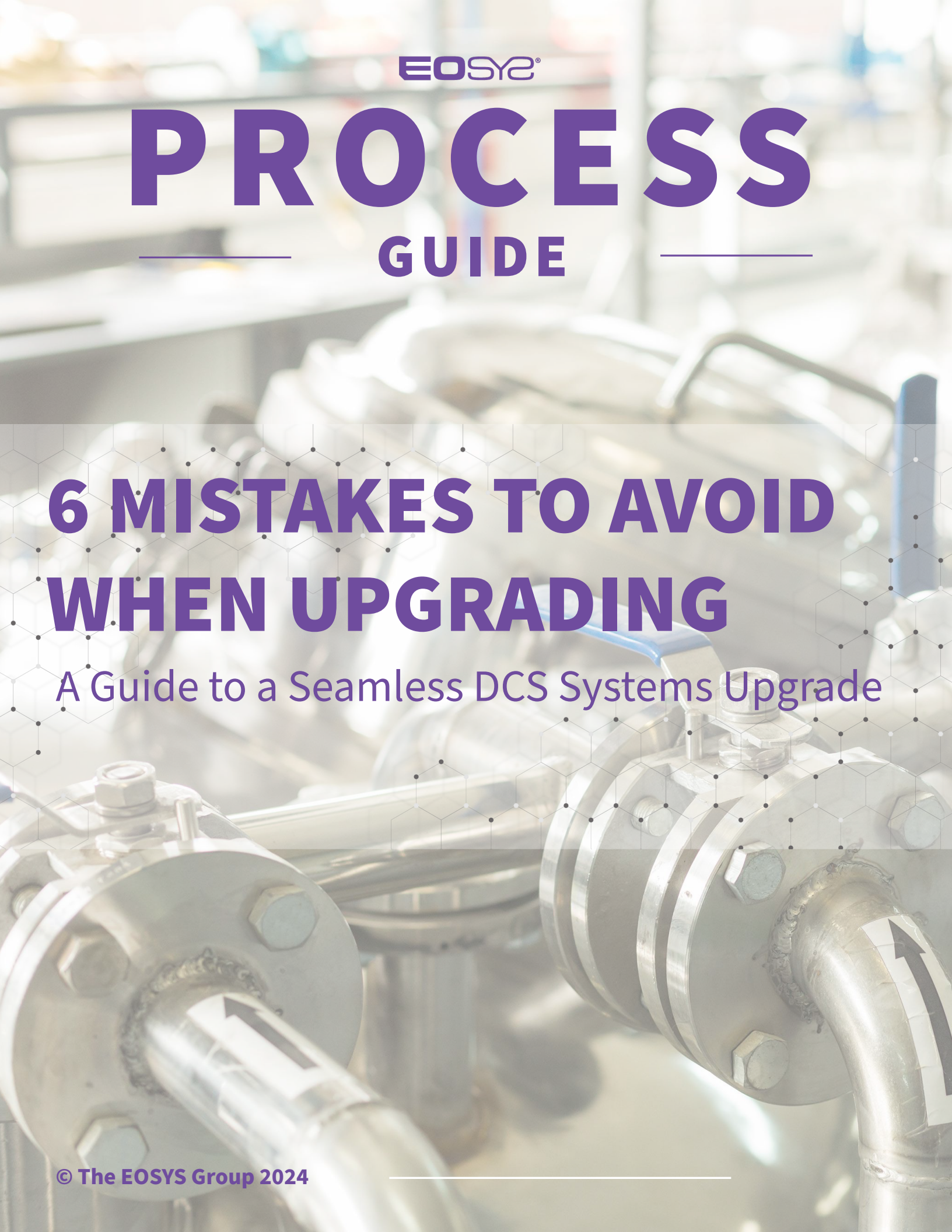


The background of the entire page is a blurred industrial scene featuring various pipes, valves, and mechanical components. A semi-transparent grey rectangular box is centered over the image, containing the main text and a decorative hexagonal pattern.

EOSYS®

PROCESS

GUIDE

6 MISTAKES TO AVOID WHEN UPGRADING

A Guide to a Seamless DCS Systems Upgrade

UPGRADES CAN BE RISKY BUSINESS

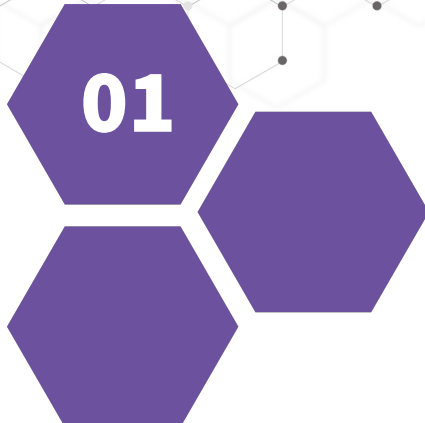
You know your outdated plant system could pose a risk to your business. It's not as secure as leadership is asking for, and it's getting more difficult to find both parts and qualified people to work on it. Unfortunately, it will only get harder - and cause more downtime - as time goes on.

At EOSYS®, our solutions come from technical experts that know the Process industry inside and out. We give you more modern, secure systems that run more consistently, are easier to maintain, and lessen your business risk - helping you avoid lengthy downtime that costs you money.

That's why we've outlined the most costly mistakes you can make when upgrading your system. Avoid these, and avoid making your system a risk to your business.

***Modern, secure solutions that
don't cause downtime.***

Three solid purple hexagons are arranged in a triangular pattern on the right side of the page, overlapping the white banner area. They are positioned to the right of the bold text.



01

NEVER ASSUME YOUR CONTROL SYSTEM IS READY TO BE UPGRADED

It is always good practice to keep your controls code clean, but a running plant has operational needs that don't always align with good coding practices. Maybe you've had to make software changes at 2AM to keep the plant running and intended to clean it up when you had some spare time, but never actually got to it. **Now is the time to find and remove any dead code or abandoned I/O - before you embark on a significant system upgrade.**

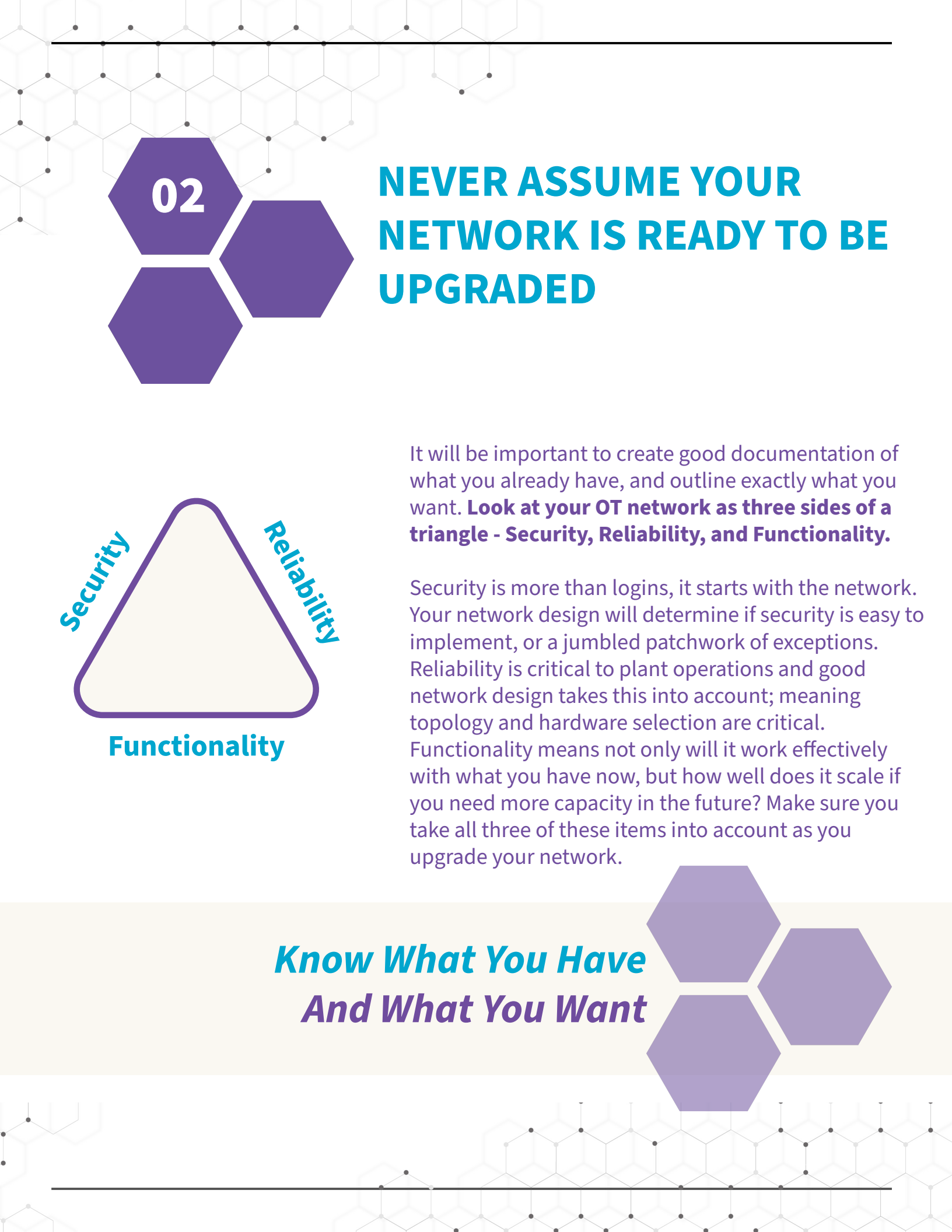
Now is also the time to investigate new features the upgrade brings. Don't assume the way you're doing things now is the way you will still want to do them in the upgraded system. Enhanced block features are one of the reasons to upgrade, so take advantage of them!

Conversely, don't assume that the new system will work exactly like the existing system. We've encountered conversions where pre-existing code compiled and ran, but the pre-processor directives changed so it was no longer doing exactly the same thing it used to, in the same way. It's always a good idea to talk to someone who's been through the process to hear lessons learned you can benefit from, and avoid any unintended "gotcha" moments.



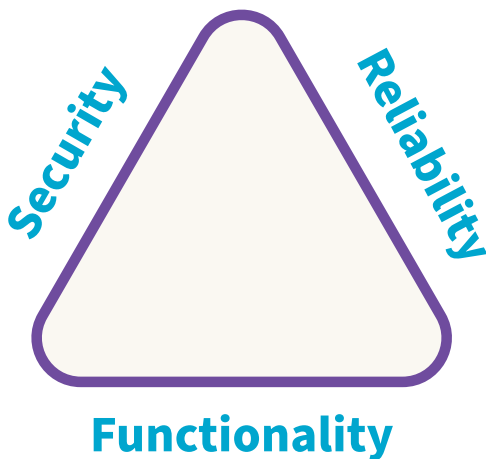
*Clean Up Before
You Upgrade*





02

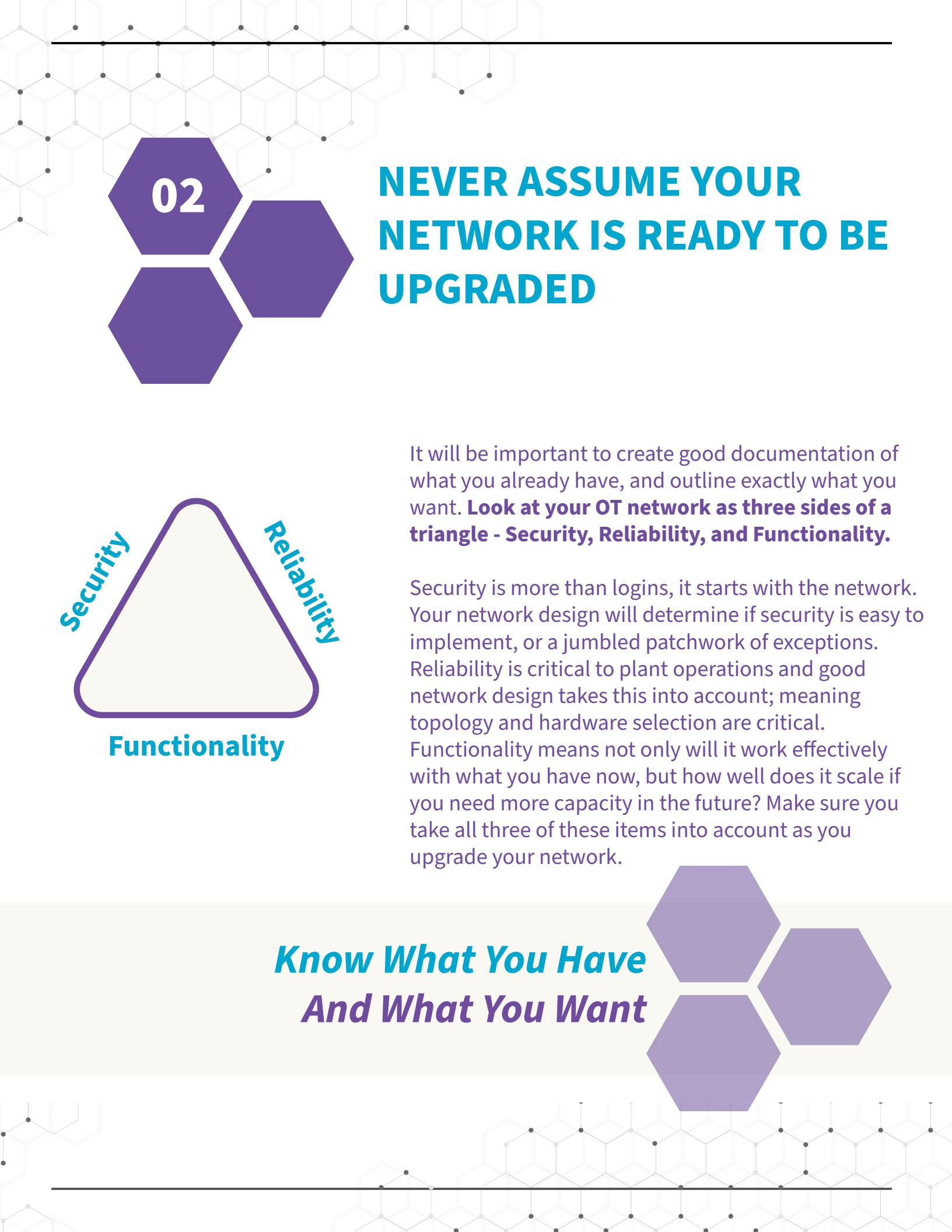
NEVER ASSUME YOUR NETWORK IS READY TO BE UPGRADED



It will be important to create good documentation of what you already have, and outline exactly what you want. **Look at your OT network as three sides of a triangle - Security, Reliability, and Functionality.**

Security is more than logins, it starts with the network. Your network design will determine if security is easy to implement, or a jumbled patchwork of exceptions. Reliability is critical to plant operations and good network design takes this into account; meaning topology and hardware selection are critical. Functionality means not only will it work effectively with what you have now, but how well does it scale if you need more capacity in the future? Make sure you take all three of these items into account as you upgrade your network.

***Know What You Have
And What You Want***





03

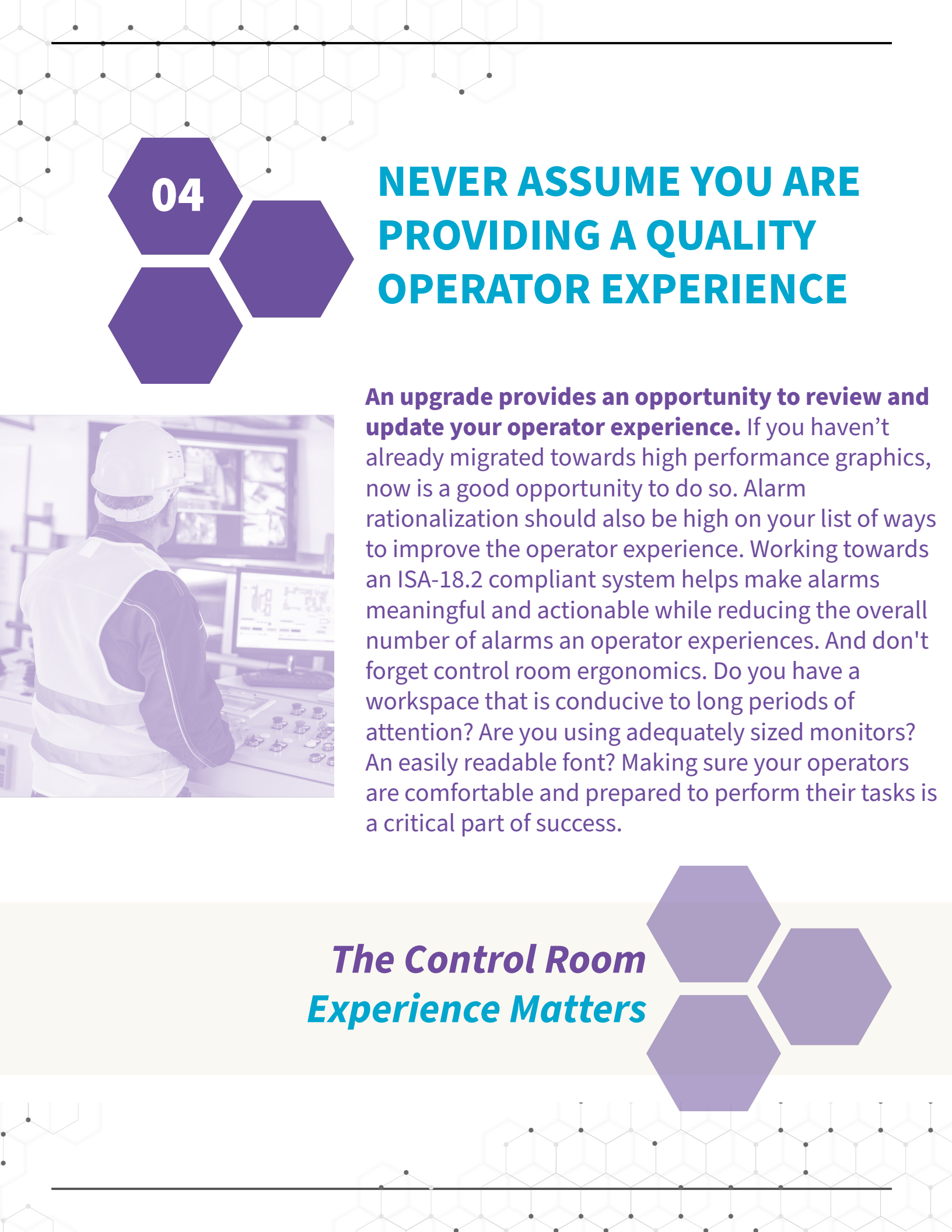
NEVER ASSUME YOU ARE IN COMPLIANCE WITH LATEST SAFETY PRACTICES

Safety requirements around Burner Management, Process Safety, Machine Safety, and more have evolved. Not only should you check to make sure you are in compliance with the latest safety requirements, but **now is an excellent time to re-evaluate** the need for and use of Controller Redundancy, Safety Processors, I/O Redundancy, Intrinsically Safe I/O etc.



*Use Compliance Check As
Opportunity For Evaluation*





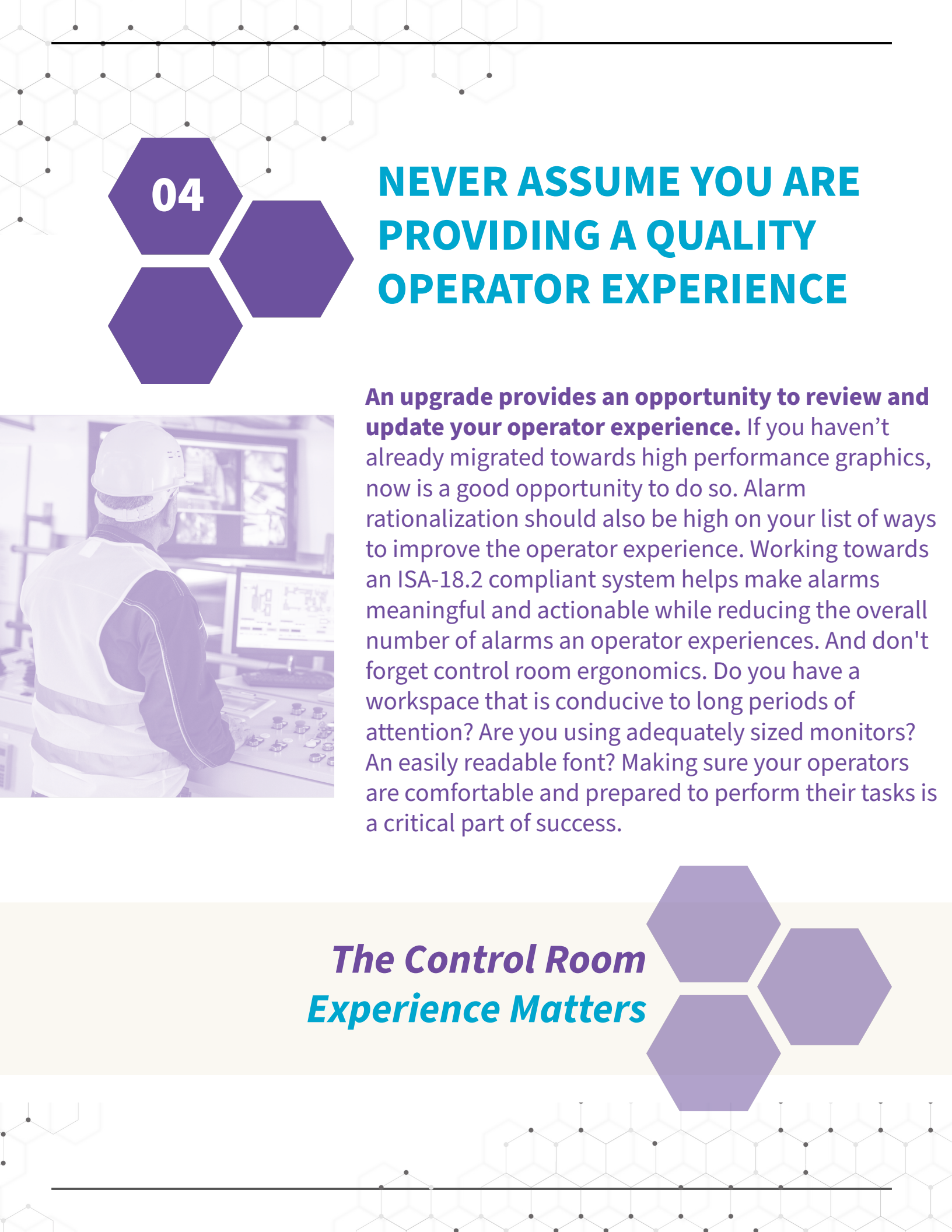
04

NEVER ASSUME YOU ARE PROVIDING A QUALITY OPERATOR EXPERIENCE



An upgrade provides an opportunity to review and update your operator experience. If you haven't already migrated towards high performance graphics, now is a good opportunity to do so. Alarm rationalization should also be high on your list of ways to improve the operator experience. Working towards an ISA-18.2 compliant system helps make alarms meaningful and actionable while reducing the overall number of alarms an operator experiences. And don't forget control room ergonomics. Do you have a workspace that is conducive to long periods of attention? Are you using adequately sized monitors? An easily readable font? Making sure your operators are comfortable and prepared to perform their tasks is a critical part of success.

***The Control Room
Experience Matters***





05

NEVER ASSUME YOU HAVE ADEQUATE TIME

The majority of DCS upgrades are in plants that run 24/7 with limited outages for maintenance. **Downtime is one of the main reasons needed upgrades don't get done.** Good planning can reduce downtime, often significantly.



Work with operations and maintenance to find ways to shorten your cutover time. Minimize wiring changes, make use of conversion kits, stage new equipment; looking for ways to reduce the impact on operations. In instances where downtime is prohibitively expensive, look for ways to roll inputs on the fly. Get creative when hunting for ways to shorten the cutover window! Lastly, have a fallback plan that is tested and ready to go - along with full commitment from the team that once the process begins you are committed to seeing it through.

*Good Planning Can Significantly
Reduce Downtime*



06

NEVER SAY "NEVER AGAIN"



Equipment upgrade cycles are getting shorter. It's important to make sure you size the hardware to accommodate any planned future expansion. Use electronic marshaling cards to give you maximum flexibility. Virtualize servers to become less dependent on the underlying physical platform.

Ask yourself "what do I wish the person before me had done to make this upgrade easier?" and do that for the next person. Because more than likely, that next person will be you.



Contact Us Today

*Make Life Easier
For Future You*

ABOUT THE EOSYS GROUP®

For over 30 years, EOSYS has been providing custom industrial integration solutions to the Process industry. With over \$34M in system integration projects completed in the Chemical industry since 2020 alone, EOSYS is trusted by Fortune 500 companies and major industrials across the US.



EOSYS®

eosysgroup.com