CHEMICAL SECURITY SEMINARS

July 18, 2024

“Wicked Problems” in Chemical Security

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#ChemicalSecurity

CASE STUDY – BRENNTAG

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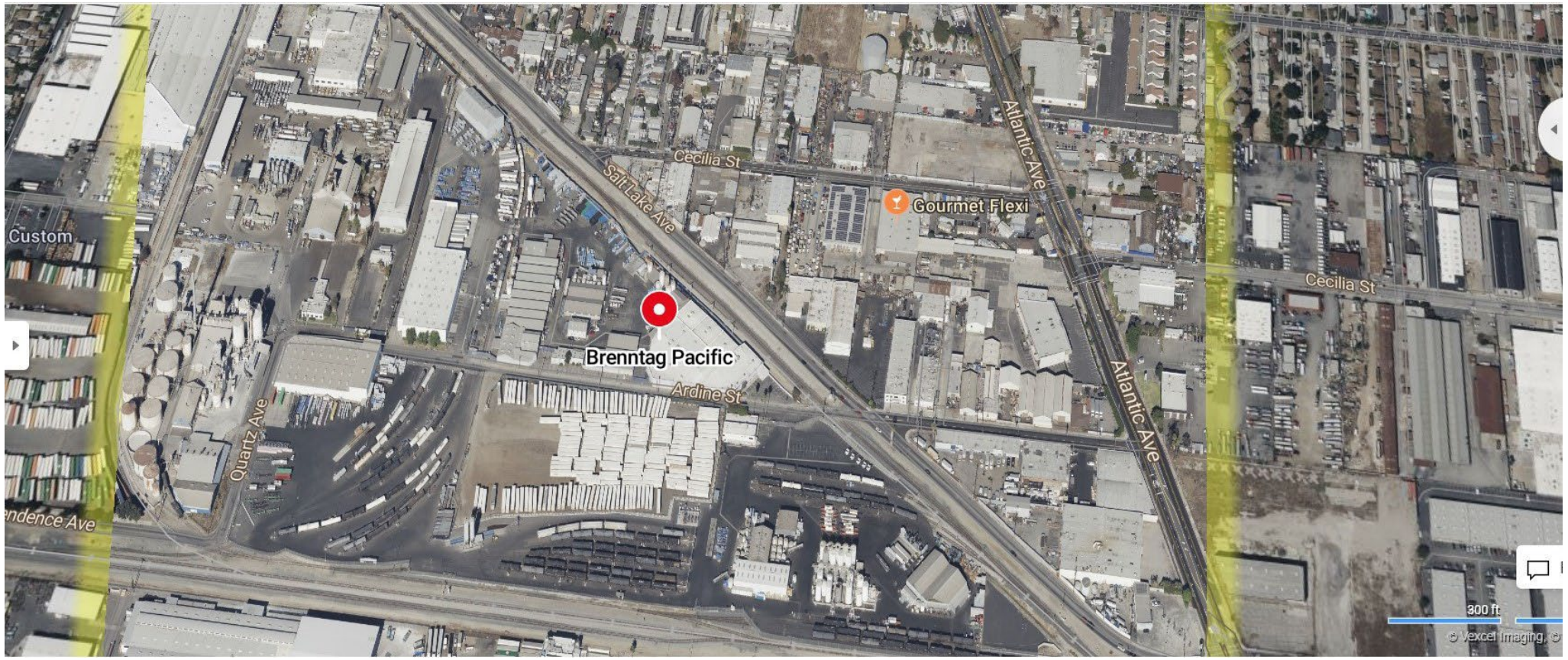
Brenntag


Custom
Cecilia St
Salt Lake Ave
Gourmet Flexi
Atlantic Ave
Cecilia St
Brenntag Pacific
Ardine St
Quartz Ave
Atlantic Ave
300 ft

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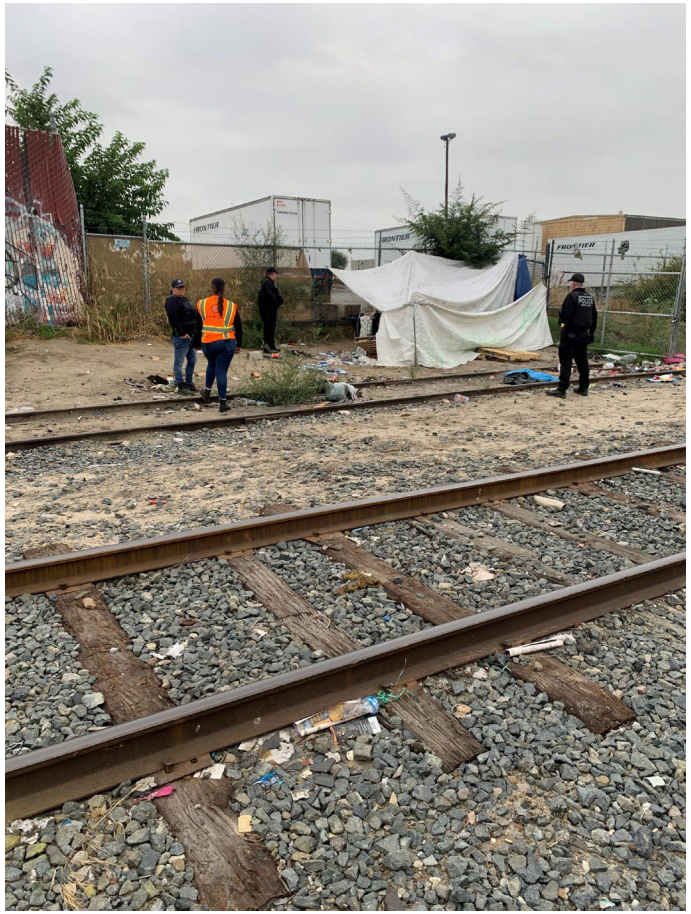

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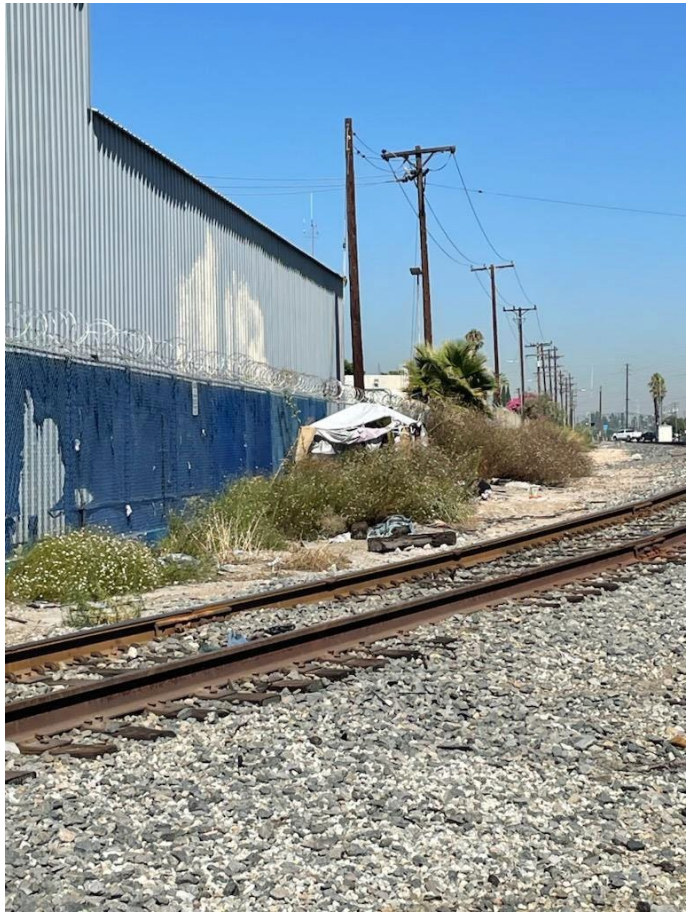

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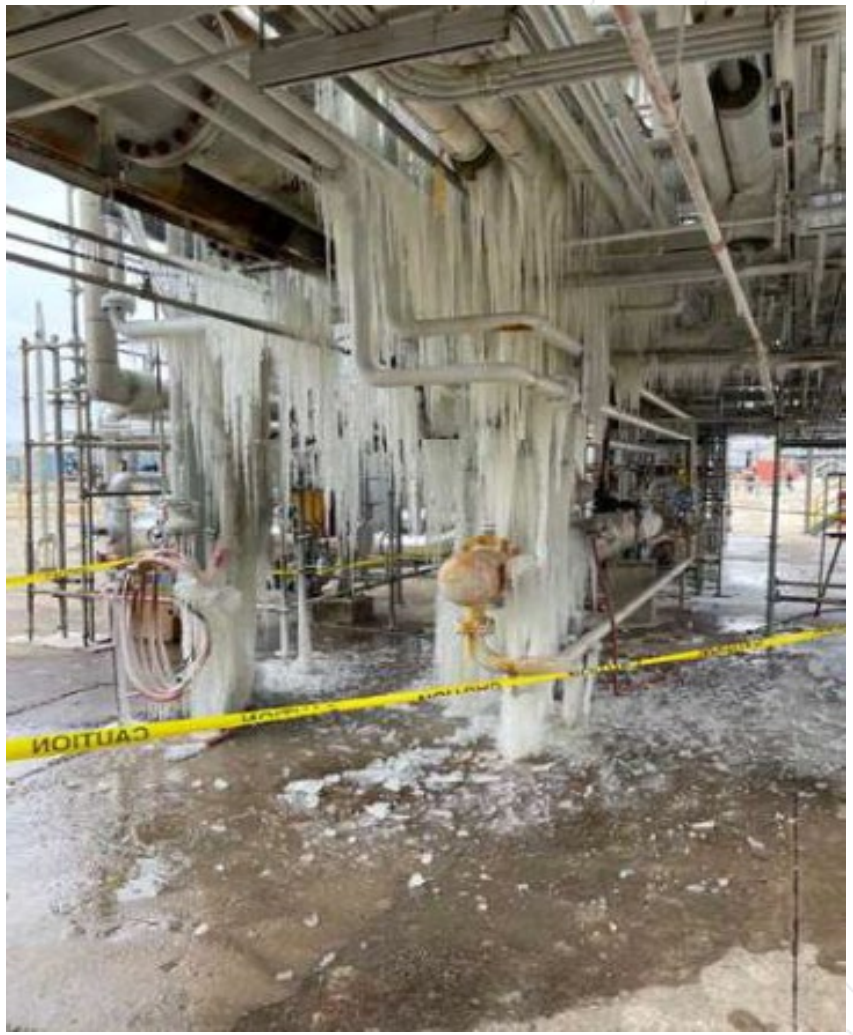
INEOS
Olefins & Polymers
USA

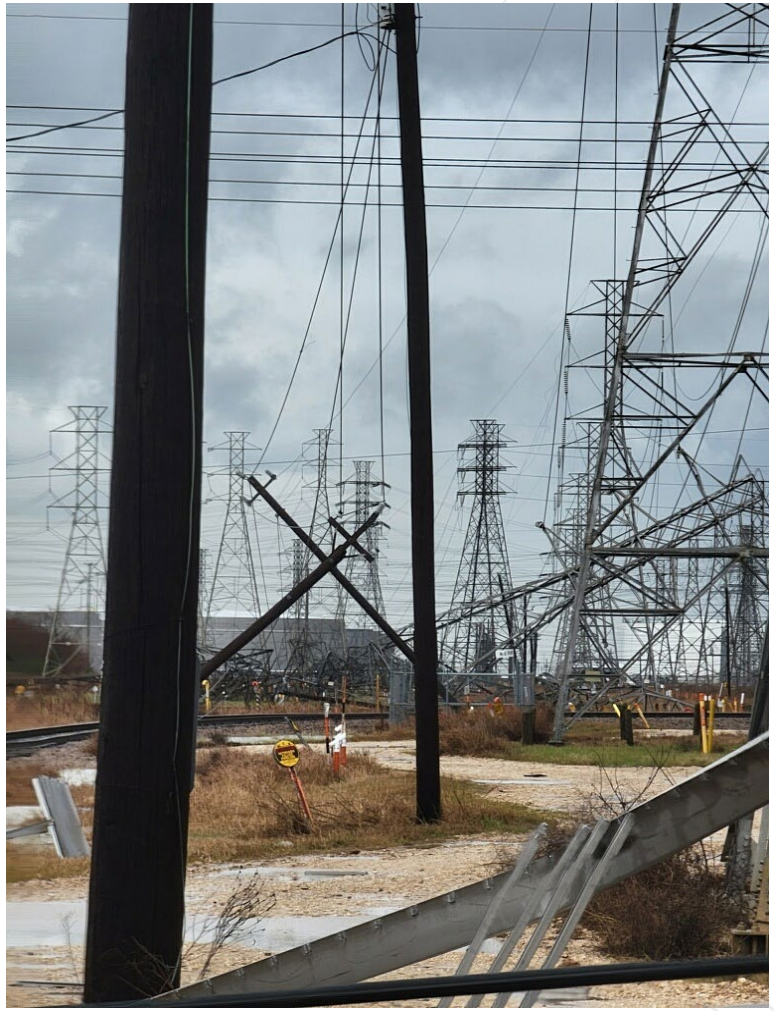
WICKED Problems

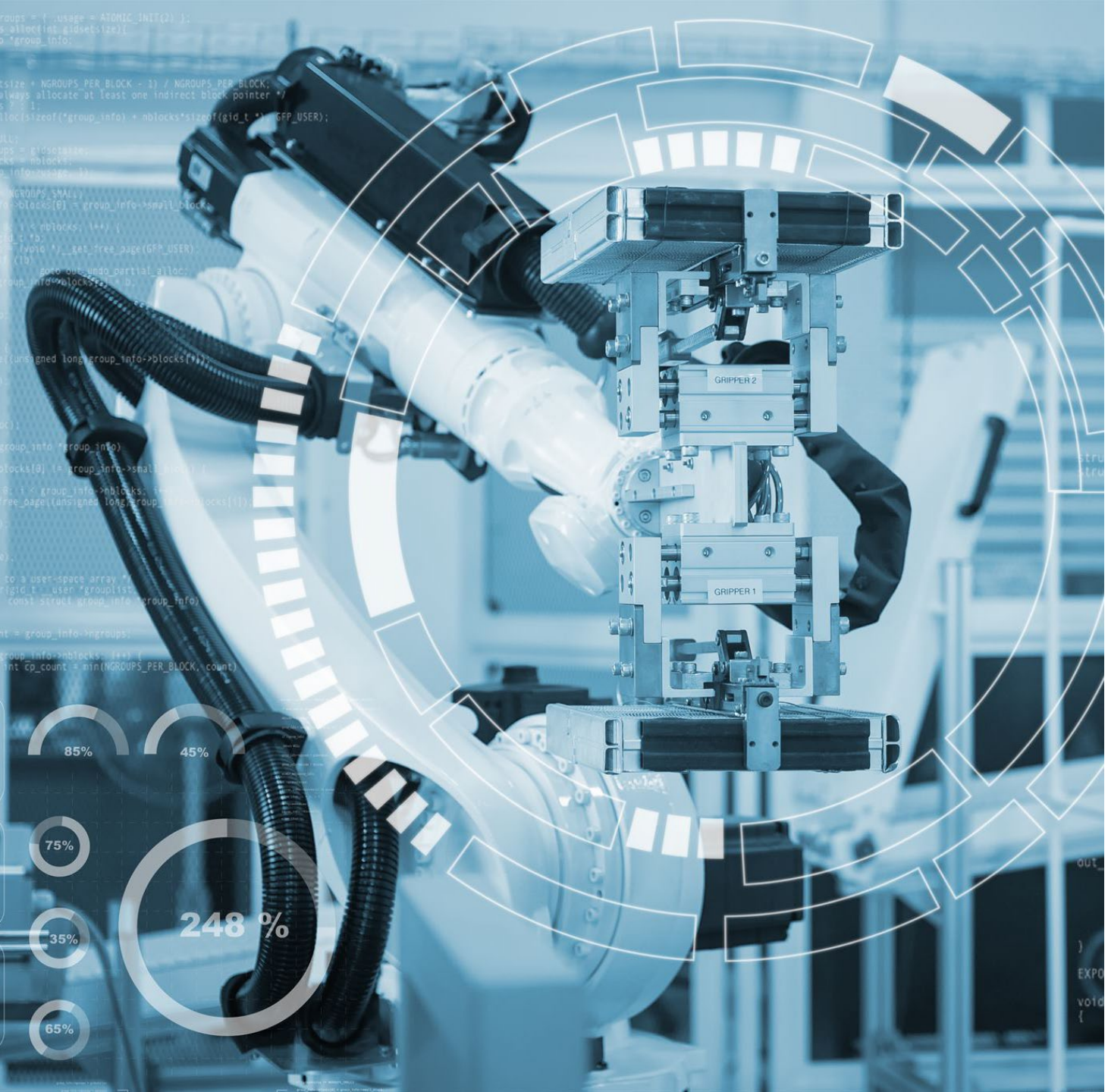
Natural Events (Non-Hurricane)

February 2021 – Winter Storm Uri (Snowvid)



January 2023 – EF3 Tornado (Deer Park, TX)



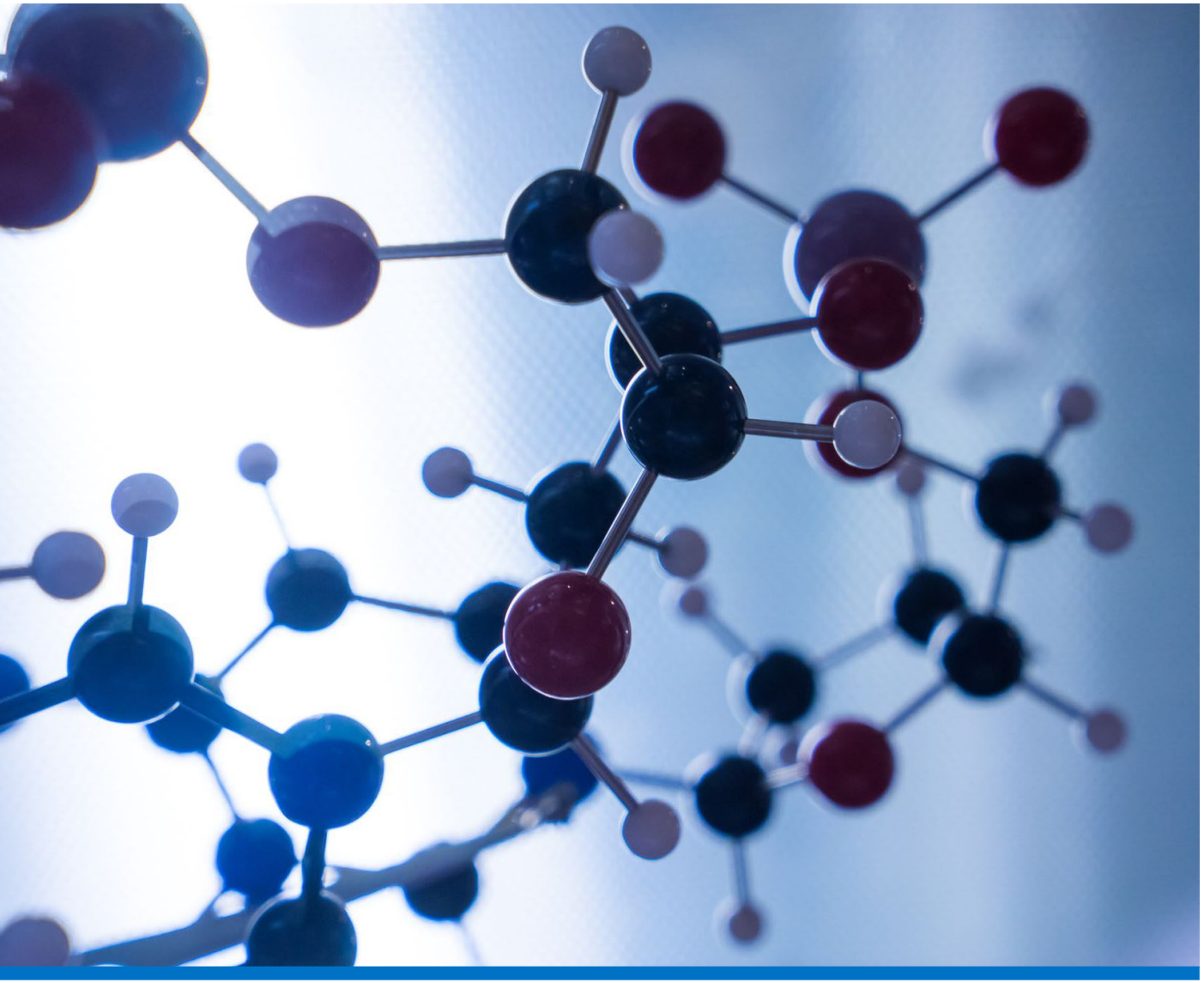


Risks and Benefits of AI in Chemical Sector

EXPLORING SAFETY, EFFICIENCY AND IMPROVED PROCESS CONTROL

TODD MESICK

CISO



Presentation Overview

Benefits of AI in Chemical Sector

AI has the potential to revolutionize the chemical sector, improving productivity, efficiency, and safety.

Risks of AI in Chemical Sector

The use of AI in the chemical sector also comes with risks, including cybersecurity threats, privacy concerns, and the potential for unintended consequences.

Risks of AI in Chemical Sector

Safety Risks

The use of AI in the chemical sector poses safety risks, such as the possibility of accidents or chemical spills. AI systems can fail, and human error can also contribute to accidents. It is important to implement safety protocols and regular maintenance to mitigate these risks.

Security Risks

The use of AI in the chemical sector also poses security risks, such as the potential for cyber attacks or data breaches. AI systems are vulnerable to hacking, and the chemical sector is a popular target for cybercriminals. It is important to implement cybersecurity protocols and regular audits to mitigate these risks.

Security Risks

The use of AI in the chemical sector can lead to cybersecurity risks, making AI systems vulnerable to cyberattacks and data theft. These risks can result in the loss of sensitive data or even physical harm to personnel or equipment.

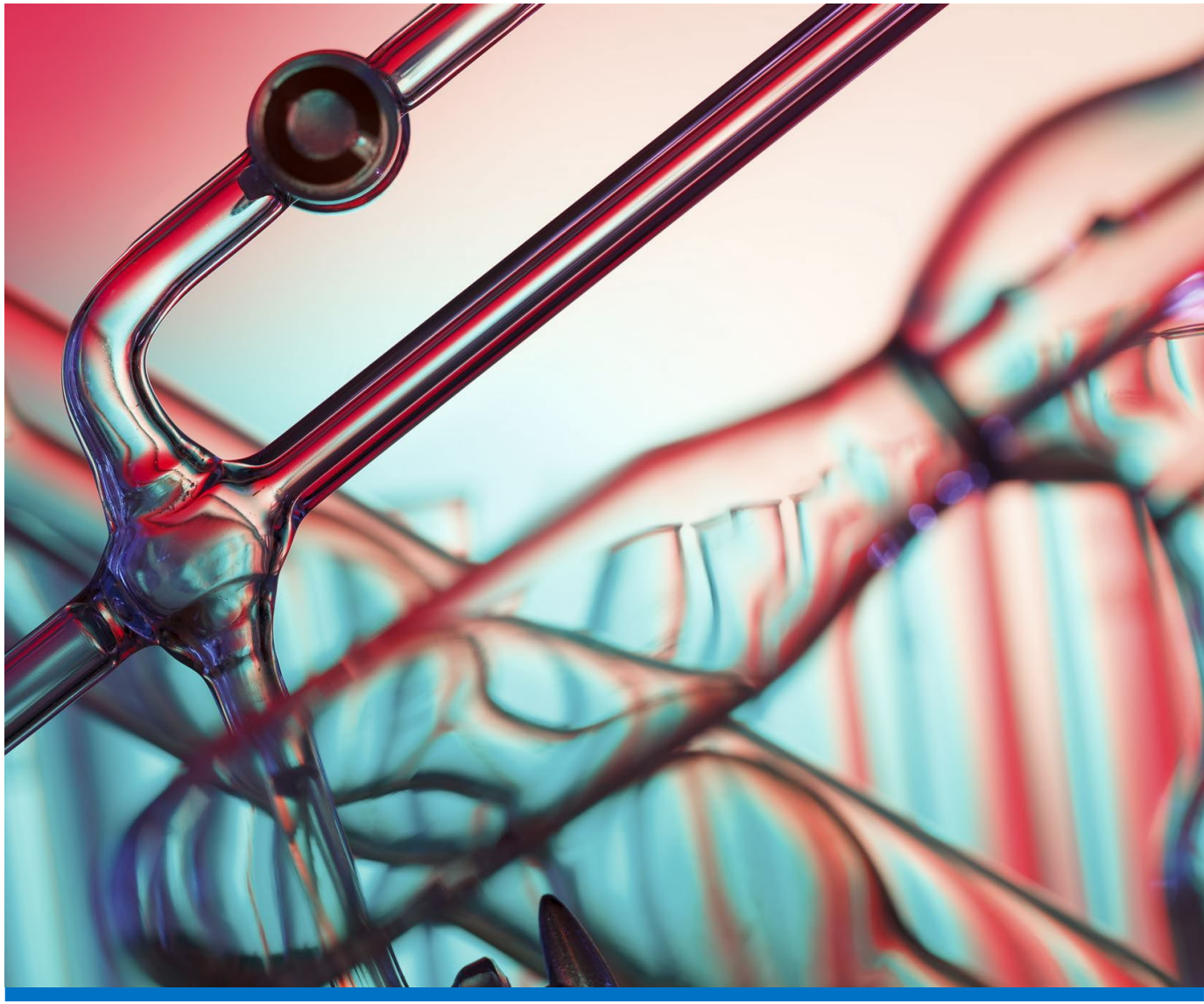
Benefits of AI in Chemical Sector

Increased Efficiency

The use of AI in the chemical sector can significantly increase efficiency by automating tasks such as data analysis, optimization, and monitoring, thereby reducing costs and improving overall productivity.

Improved Process Control

AI can improve process control by providing real-time insights and early warning systems which can detect and mitigate potential issues, thereby improving safety and reducing the risk of accidents.



Increased Efficiency

AI can optimize chemical processes and reduce waste, leading to increased efficiency and cost savings in the chemical sector.

- Writing summarize emails
- Create PowerPoints
- Excel

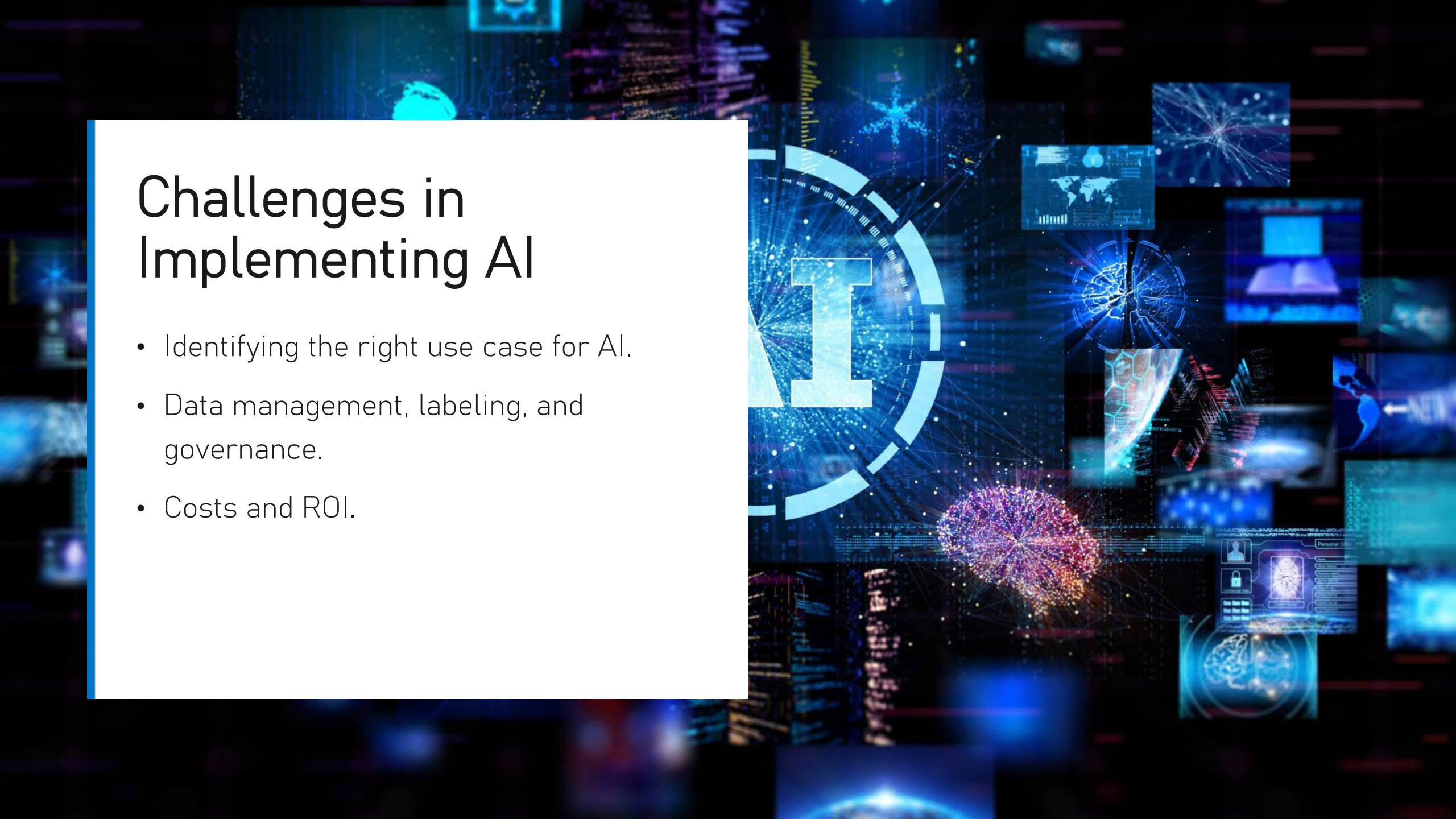
Improved Process Control

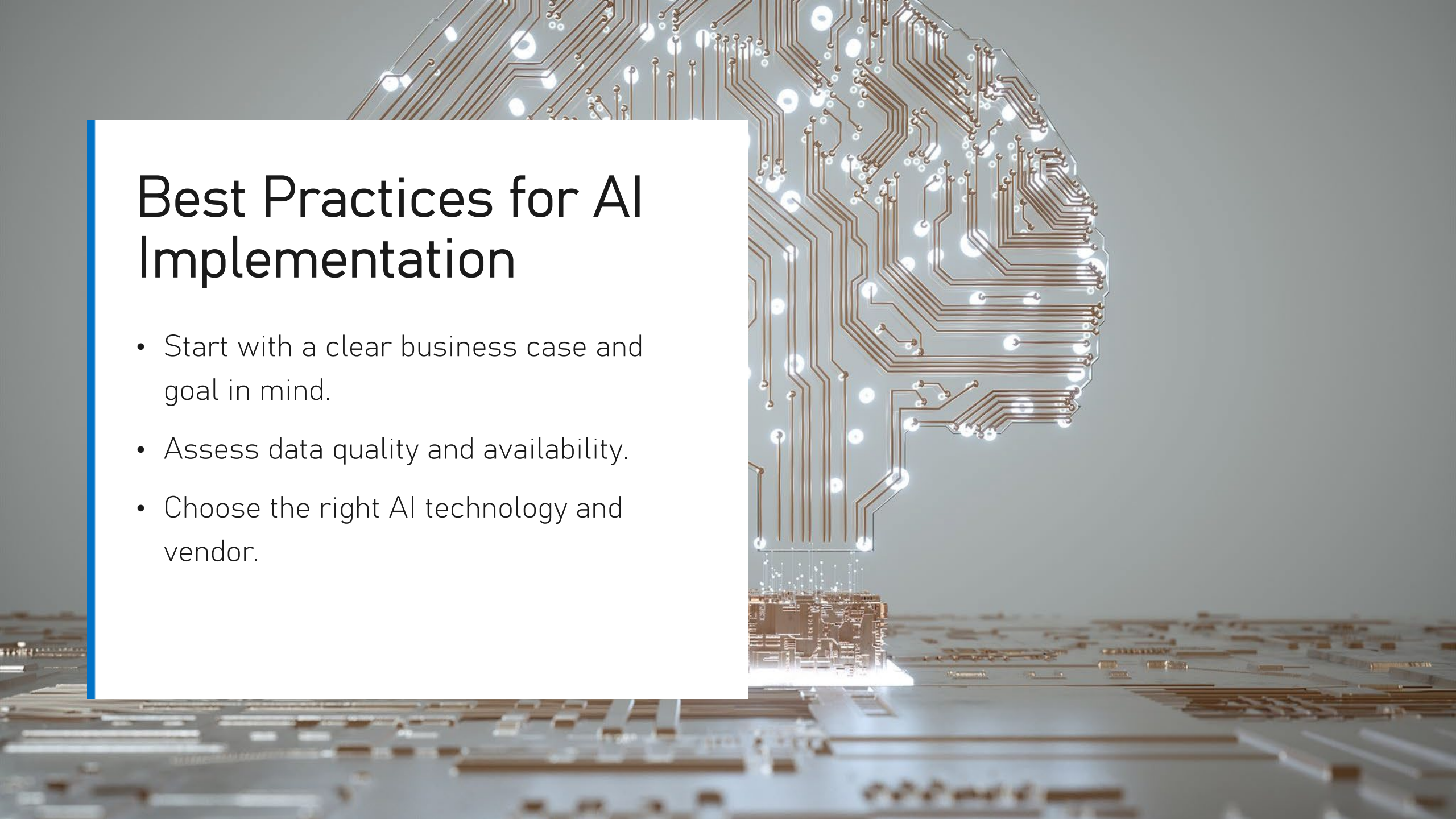
AI offers the potential to improve process control in the chemical sector by reducing human error, improving efficiency, and increasing consistency and reliability of production.

- Data
- Digital Twins
- Consistency

Challenges in Implementing AI

- Identifying the right use case for AI.
- Data management, labeling, and governance.
- Costs and ROI.





Best Practices for AI Implementation

- Start with a clear business case and goal in mind.
- Assess data quality and availability.
- Choose the right AI technology and vendor.

Examples of Successful AI Implementation

- Predictive maintenance
- Modeling/Digital Twins
- Personalized marketing
- Fraud/Cyber Threat detection

Conclusion

The use of AI in the chemical sector can bring both risks and benefits. While it can increase efficiency and improve process control, it also poses safety and security risks. It is important to carefully consider the risks and benefits before implementing AI in the chemical sector.