



3 Integration of IT and OT Introduction

Topics

- Benefits of IT-OT Convergence
- Challenges and Considerations

Benefits of IT-OT Convergence

Enhanced Visibility and Decision-Making

- Data from sensors can be displayed on user-friendly dashboards
- Alerts can be sent for dangerous situations



- Image from <https://periclesgroup.substack.com/p/how-homer-simpson-and-hippies-have>

Benefits of Convergence

- **Increased Efficiency and Productivity**
 - Monitoring vehicles with GPS can improve fuel efficiency
- **Improved Agility and Innovation**
 - If the price of a mineral drops, production of it could be decreased
- **Better Risk Management and Cybersecurity**
 - Data from many sensors could detect unusual activity
 - Such as a cyberattack or malfunction

Challenges and Considerations

Challenges and Considerations

- **Cultural Differences**

- OT team wants to maintain operation and reach production targets
- IT team might prioritize protecting data integrity and IT security protocols
- Training should help harmonize the teams

- **Technological Compatibility**

- OT systems often use old technology, which is incompatible with modern IT gear
- Upgrading OT devices may be difficult or costly
- Middleware is a common solution

Challenges and Considerations

- **Security Concerns**

- IT threats like malware may impact OT on a converged network
- Defenses like firewalls, IDS, and access control can help
- Awareness training and incident response plans are also needed

- **Data Overload**

- OT devices may produce a lot of data, overwhelming IT log analysis systems
- Data analytics and machine learning can help
- This data may raise security and privacy concerns

Challenges and Considerations

- **Regulatory Compliance**

- Local, regional, and international regulations about
- Occupational safety, environmental sustainability, data privacy, and more

Kahoot!

Ch 3