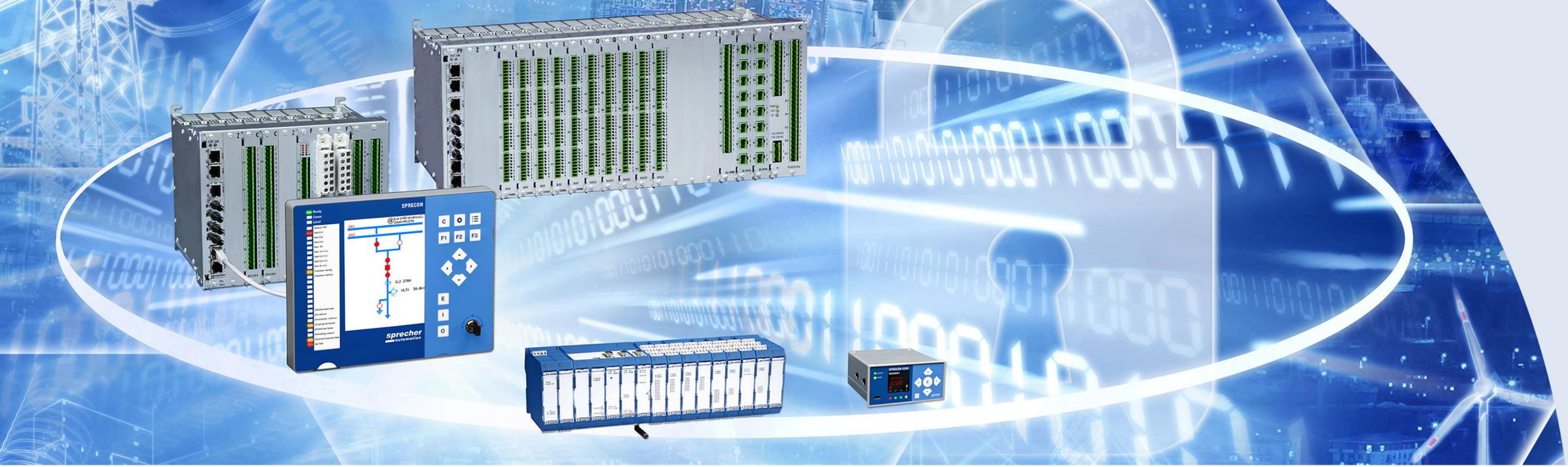


# CYBERSECURITY FOR NETWORKED SUBSTATION AUTOMATION

*IEC 61850 Europe by Stephan Hutterer*

sprecher automation

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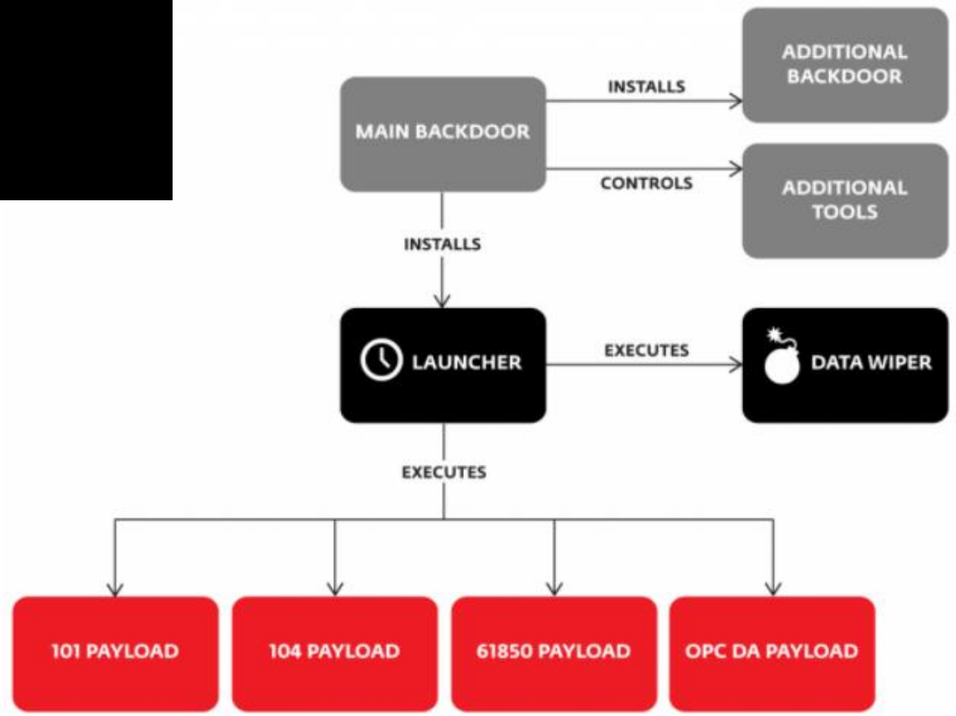
# REAL THREATS?

INDUSTROYER

CRASH OVERRIDE



# HOW TO PROTECT?

# CURRENT SOLUTIONS

**IEC 62443**

**IEC 62351**

**IEEE 1686**

**BDEW Security Whitepaper**

**ISO 27019**

**ENISA Guidelines**

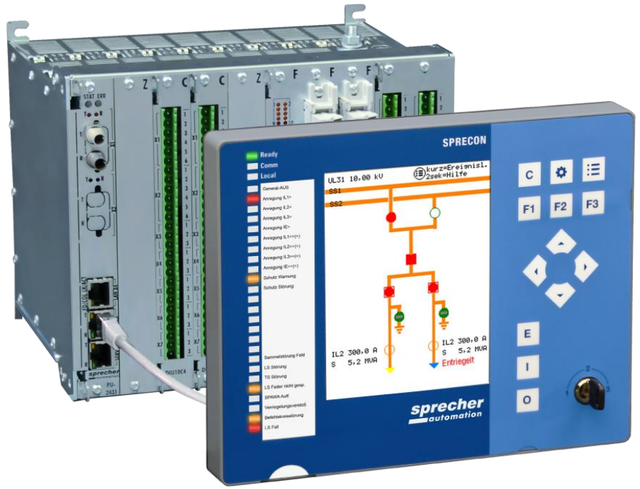
**BSI Grundschutz**

# COMMON BUILDING BLOCKS

Hardened System

Encryption

Network Segmentation




SNMPV3

Network Management

Authentication

Security Monitoring

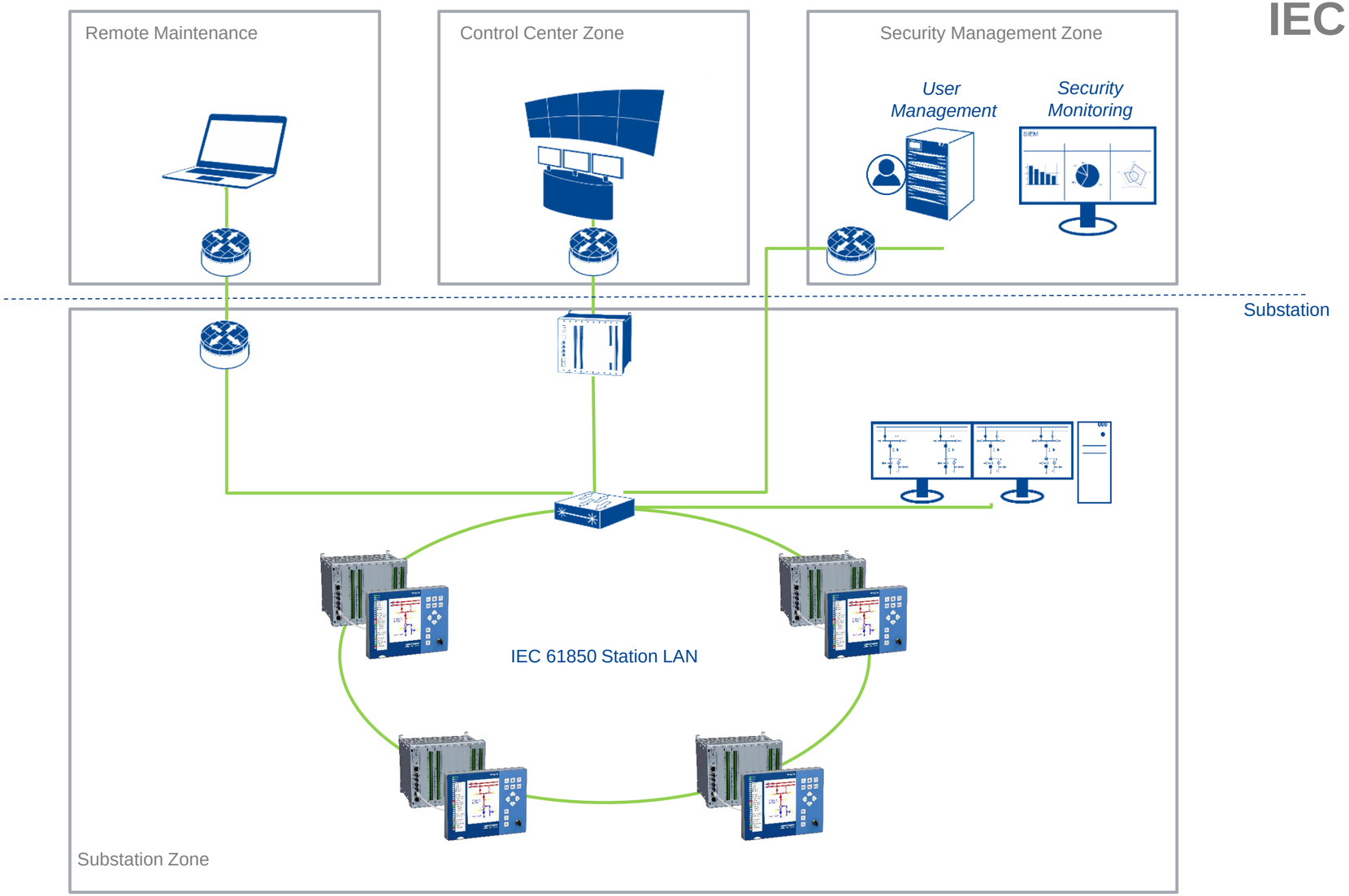
RADIUS

Role-based Access Control (RADIUS)

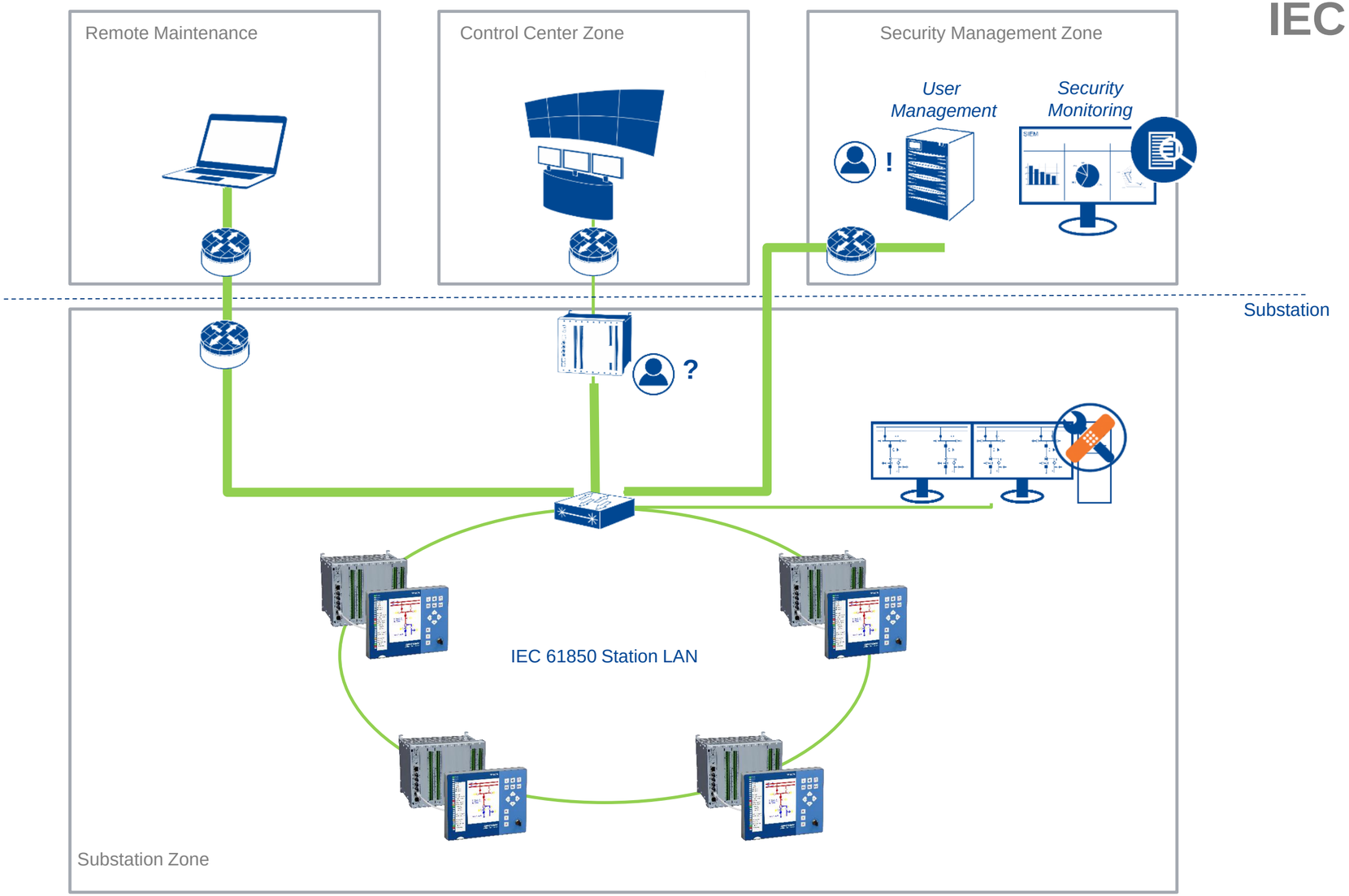
Patchmanagement

# EXAMPLE: NETWORK SECURITY FOR IEC 61850 SUBSTATIONS

**IEC 62351**
**IEC 62443**
**...**

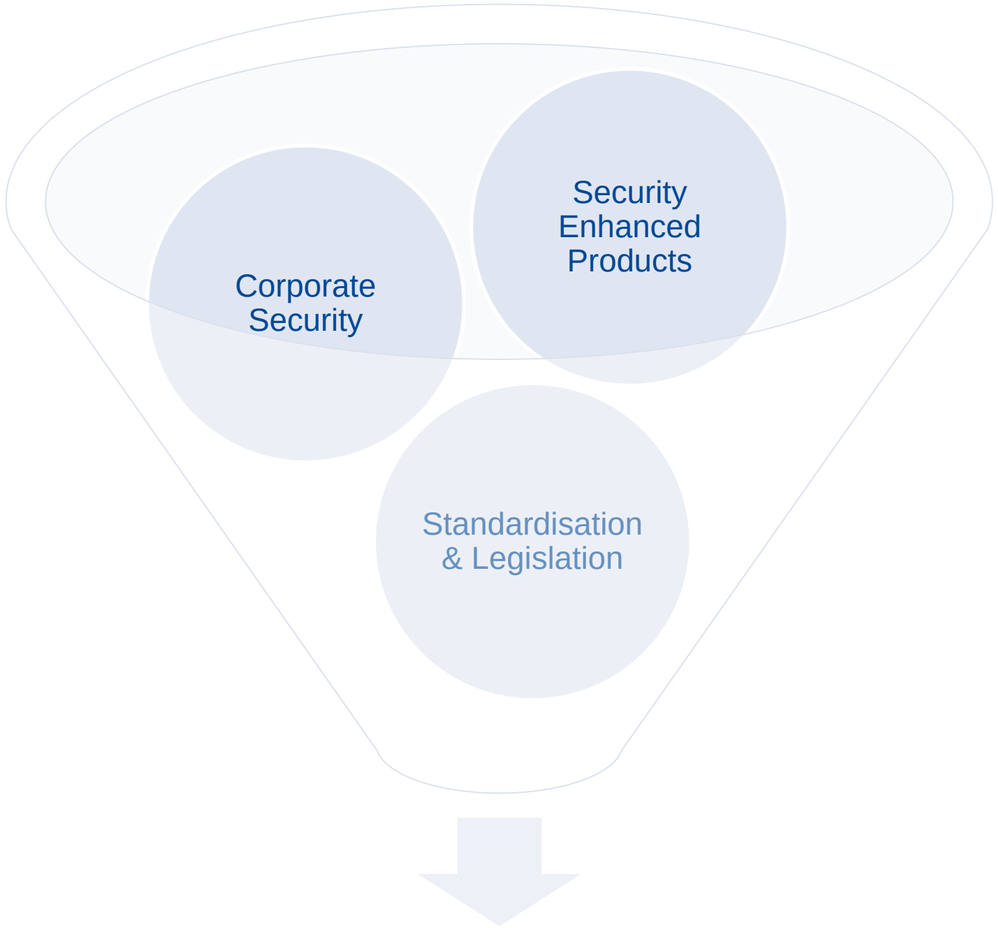


# EXAMPLE: RBAC AND SECURITY MONITORING




**IEC 62351**
**IEC 62443**
**...**

# CONCLUSION




**Secure IEC 61850 Substations**

# THANK YOU FOR YOUR ATTENTION !

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