WATERFALL®
Stronger Than Firewalls

CYBERSECURITY FOR HYUNDAI STEEL

HYUNDAI STEEL

PROTECTING STEEL CASTING PROCESS FROM EXTERNAL CYBER THREATS

Customer	Hyundai Steel
Customer Requirement	Enable safe operations monitoring, big data aggregation & analytics, quality optimization, and central monitoring of the continuous casting process.
Waterfall's Unidirectional Solution	Secures control process network perimeters from external threats with Unidirectional Security Gateways, enabling central access to operations status and production details, enabling enterprise-wide visibility and an advanced IIoT application platform.

THE MODERN MANUFACTURING INDUSTRY IS FACING AN INCREASED ATTACK SURFACE

With the increased connectivity of digital devices inside a smart manufacturing plant comes a remarkable increase in attack surface. To avoid the costly turn-arounds, the modern, highly–connected manufacturing plant needs a solution to keep attackers out while simultaneously analyzing and aggregating data for plant optimization.

THE CHALLENGE

Enable secure monitoring, data aggregation and analysis of continuous casting plant information while protecting safe and reliable operations. Enable centralized monitoring, visibility and IIoT applications while preventing remote cyber threats from entering the process network.
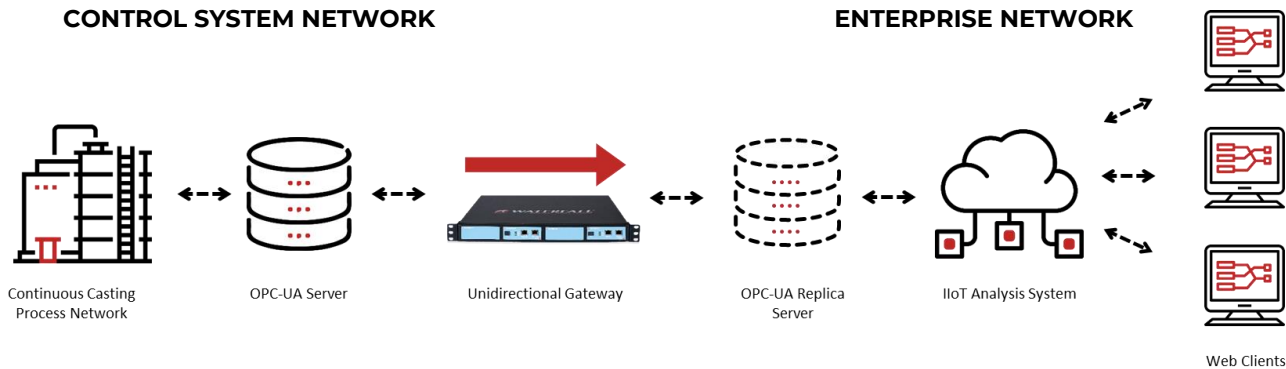
WATERFALL SOLUTION

A Waterfall Unidirectional Security Gateway was installed between the control system and the enterprise network. Unidirectional Gateway software replicates OPC-UA servers from the production network to enterprise network for use by centralized and cloud-based data aggregation, analysis, quality optimization, and predictive maintenance, platforms.

RESULTS & BENEFITS

Security: A Unidirectional Gateway provides strong assurance that no attack from the IT network can enter the process network.

Visibility: Enterprise and IIoT applications monitor continuous casting process data in real-time. Central and cloud-based applications aggregate and analyze OPC-UA replica data. The replication process is transparent to these applications.

Compliance: Unidirectional Gateways simplify compliance with enterprise security programs and with regional and global cyber security standards and regulations.

CONTROL SYSTEM NETWORK
ENTERPRISE NETWORK

Continuous Casting Process Network — OPC-UA Server — Unidirectional Gateway — OPC-UA Replica Server — IIoT Analysis System — Web Clients

Waterfall Unidirectional Security Gateways replace firewalls in industrial network environments, **providing absolute protection to control systems and industrial control networks from attacks emanating from external less-trusted networks**. Waterfall Gateways contain both hardware and software components. The hardware is physically able to send information in only one direction. The software replicates servers and emulates devices. At **Hyundai Steel**, the gateway software produces an accurate, timely replica of a production OPC-UA server. Enterprise and cloud-based IIoT applications and users use the OPC-UA replica exclusively.

Unidirectional Gateways **enable control-system intrusion detection, vendor monitoring, industrial cloud services, and visibility into operations** for modern enterprises and customers. Unidirectional Gateways replicate servers, emulate industrial devices and translate industrial data to cloud formats. Unidirectional Gateway technology represents a plug-and-play replacement for firewalls, without the vulnerabilities and maintenance issues that accompany firewall deployments. Replacing at least one layer of firewalls in a defense-in-depth architecture breaks the attack path from the Internet to critical systems.

UNIDIRECTIONAL SECURITY GATEWAYS BENEFITS:

» Safe, continuous monitoring of operations networks from IT-managed central platforms

» Strong, physical protection for production processes, quality and personnel safety

» Safe remote supervision of changes to protected systems

» Safe cloud vendor supply chain integration

» Central enterprise security and performance monitoring for OT networks and applications

GLOBAL CYBERSECURITY STANDARDS RECOMMEND UNIDIRECTIONAL SECURITY GATEWAYS

Waterfall Security is the market leader for Unidirectional Gateway technology with installations at critical infrastructure sites across the globe. The enhanced level of protection provided by Waterfall's Unidirectional Security Gateway technology is recognized as best practice by leading industry standards bodies and authorities such as NIST, ANSSI, NERC CIP, the ISA, the US DHS, ENISA and many more.

INFO@WATERFALL-SECURITY.COM | WWW.WATERFALL-SECURITY.COM |

ABOUT WATERFALL SECURITY SOLUTIONS

Waterfall Security Solutions is the OT security company, producing a family of Unidirectional Gateway technologies and products that enable enterprise-wide visibility for operations, with disciplined control. Waterfall products represent an evolutionary alternative to firewalls. The company's growing list of customers includes national infrastructures, power plants, nuclear plants, off and on shore oil and gas facilities, refineries, manufacturing plants, utility companies, and many more. Deployed throughout North America, Europe, the Middle East and Asia, Waterfall products support the widest range of leading industrial remote monitoring platforms, applications, databases and protocols in the market. For more information, visit. Please contact: info@waterfall-security.com