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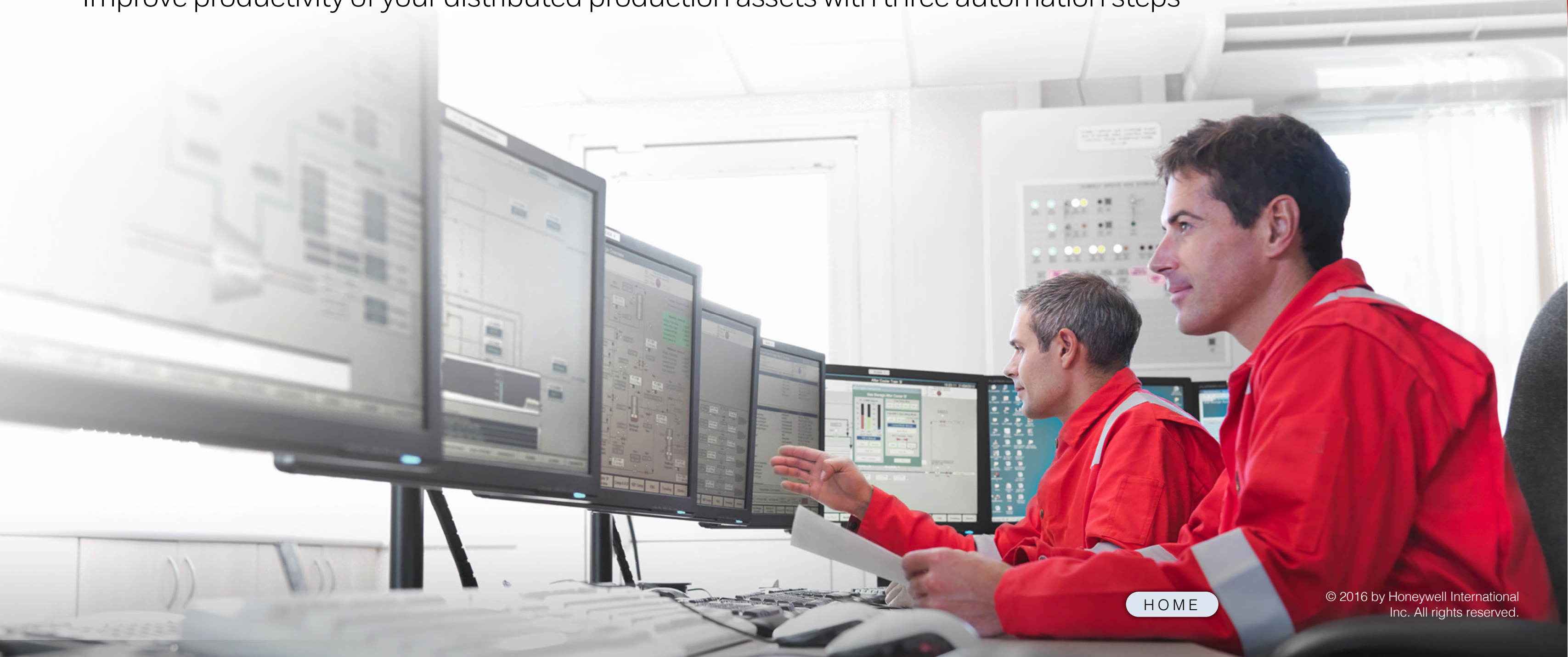
3 WAYS TO EFFICIENTLY MANAGE REMOTE DISTRIBUTED EQUIPMENT

Improve productivity of your distributed production assets with three automation steps

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INTRODUCTION

Today's process industry operations are faced with converting "Big Data" from complex automation systems into relevant, actionable information. There are also an increased number of assets and data to manage.

Oil and Gas organizations require greater control standardization and sophistication to optimize their production and gathering processes. Critical assets are often widely scattered over areas where conditions are demanding. Operations such as upstream well fields and pipelines can benefit from smarter automation.

After years of relying on basic data collection and local control, it's time for a new way of thinking:

- What if you could leverage vast amounts of data provided by modern automation and control systems?

- What if you could provide operations personnel with improved remote monitoring, diagnostic and asset management capabilities?

- What if you could enhance data collection even in the most dispersed enterprises?

- What if you could make better decisions about the actual health of assets?

- What if you could reduce configuration/commissioning time and effort?

- What if you could minimize the need to troubleshoot device issues in the field?

- What if you could bring new production fields online faster?

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Challenges in Remote Operating Environments

Industrial firms are under constant pressure in all production environments. In particular, they must simplify management of remote operations if they are to meet their business goals.

For operators in oil and gas, mining and other industries, a process controller should provide efficient monitoring, diagnostics and asset management for distributed assets. It should also be designed for harsh environmental conditions and easy deployment at remote sites.

- Enhance operational efficiency across the enterprise.

- Gain insights into the performance of large distributed operations.

- Minimize monitoring and diagnostic time for remote equipment.

- Simplify configuration and commissioning over thousands of assets.

- Improve measurement and control based on industry standards.

- Minimize travel to the field for troubleshooting and maintenance.

- Reduce overall ownership costs for field equipment.

- Bring projects online faster and with less risk.

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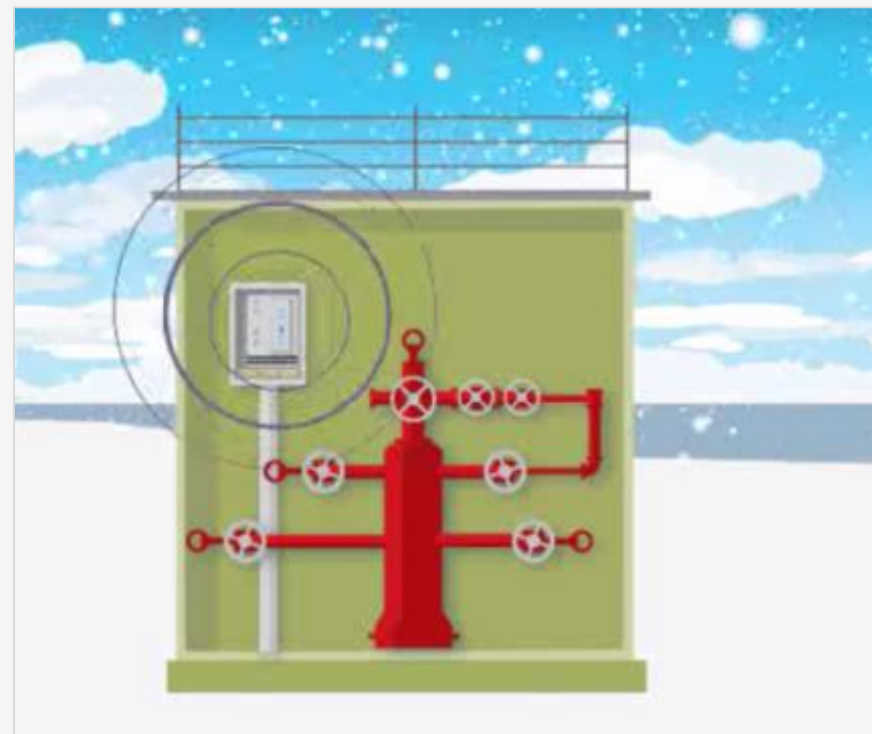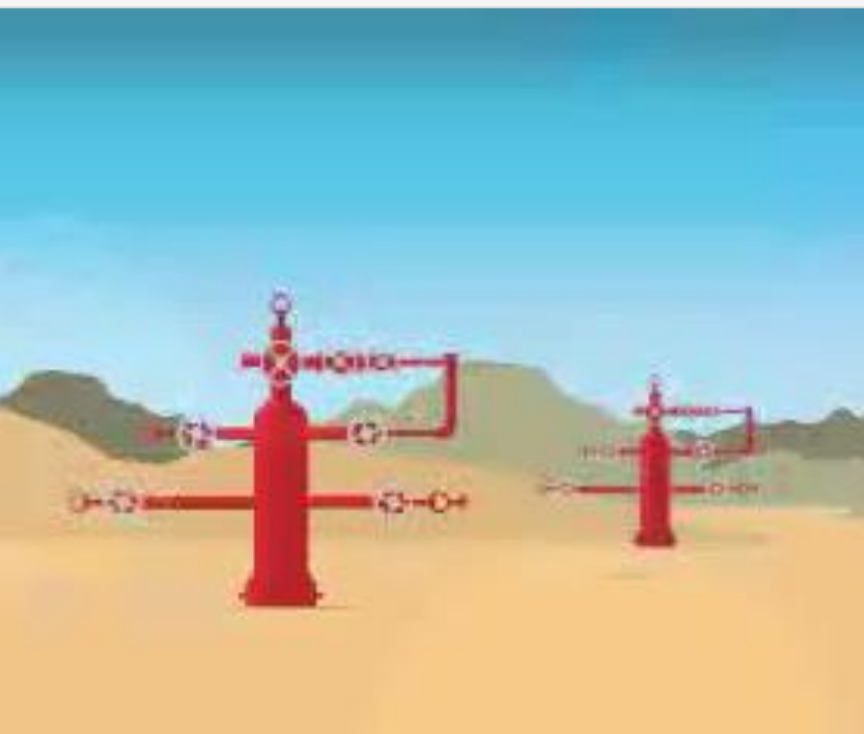
How to Efficiently Manage Geographically Distributed Equipment

Many industrial companies have multiple production facilities geographically spread out over vast distances. Optimal production and productivity is hard enough to achieve on a single asset level, much less in large distributed operations. Typical applications can include remote wellhead monitoring and control, pipeline main line valves, metering stations, and water pumping stations.

Industry experience has shown the most effective ways to gain "20/20" visibility into the production potential of distributed assets are through efficient remote monitoring, diagnostic and asset management capabilities.
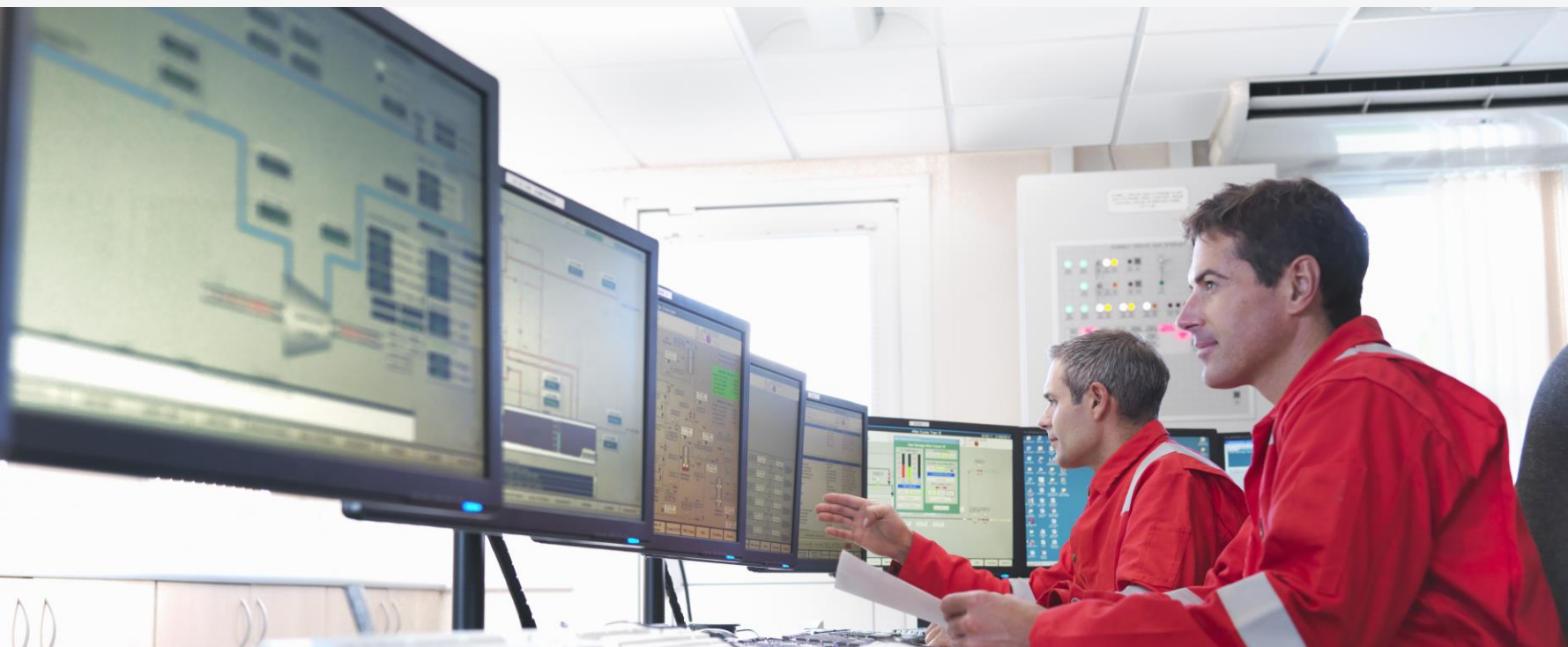
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Important Criteria

1

Implement robust asset diagnostics and monitoring

2

Utilize flexible SCADA templates for asset engineering

3

Optimize management of increasing field equipment

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1 Implement robust asset diagnostics and monitoring

New developments in Remote Terminal Unit (RTU) technology have resulted in a shift from basic data collection and local control, to smart and flexible data management that can significantly increase operational efficiency, improve reliability, lower maintenance costs, and reduce operator trips to the field.

Using a series of well-equipped RTUs/process controllers, industrial operations can reduce equipment monitoring and diagnostic time from hours to minutes.

Integrated technology optimizes asset management strategies

- Built-in HART Input/Output (I/O) enables interrogation of instrument data and diagnostics and running valve signatures via the RTU.

- Data logging and history backfill provides local storage of critical data during outages and recovery at a later time.

- Distributed system architecture allows multiple SCADA servers to operate as one within a single asset or across the enterprise.

- Onboard wireless I/O can integrate ISA 100 instruments such that devices appear as native I/O to the controller.

- A centralized asset management system uses smart device instrumentation to save considerable time in configuration, maintenance, troubleshooting, and diagnosing field devices.

Traditional Data Collection

- Operator navigates to every individual well field
- Operator reviews KPIs to make exception list
- Operator navigates to each well in the exception list in turn

UP TO
60 MINS/ 100 wells
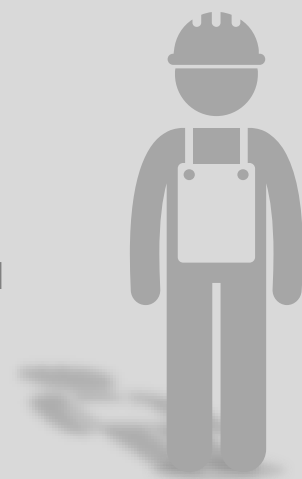
Advanced Asset Management

- Operator views exceptions and takes action

LESS THAN
2 MINS ALL wells

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## 2 Utilize flexible SCADA templates for asset engineering

The latest SCADA systems employ standardized "Equipment Templates," which radically simplify configuration and operational efficiency across assets.
Users can configure a system by adding a single piece of equipment requiring just a few details instead of separately building many points and operator displays.
This reduces asset-engineering time by up to 80%.

Latest advancements improve productivity and save time

- Equipment templates include all related SCADA configurations by category.

- Dashboard-style HMI auto-generates content from template information.

- Tabular displays show key parameters for similar pieces of equipment.

- Task-based views optimize exception-based monitoring by operators.

- Flexible user interaction includes pan & zoom for rapid navigation.

BEFORE	AFTER
+ 20 HOURS	4 HOURS
Per New Equipment Type	
2-6 HOURS	10 MINS
Per New Equipment Instance	
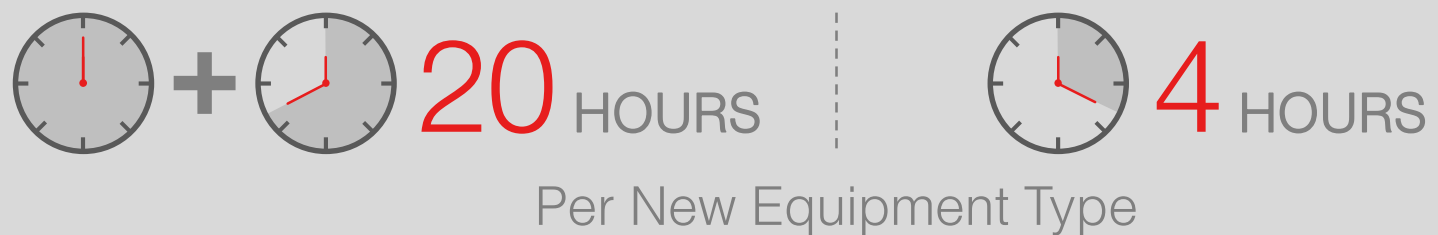
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3 Optimize management of increasing field equipment

Today's SCADA solutions have evolved to offer much greater scalability. For example, as the number of wells and equipment increase across growing oil and gas fields, I/O modules can be added to manage the extra equipment and performance data.

Modern SCADA solutions also provide Electronic Flow Metering (EFM) within the RTU itself – a more efficient approach when dealing with a large number of distributed assets.

New innovations increase efficiency and enhance flexibility as your operations grow

- Extend onboard controller capacity with mixed expansion I/O modules.

- Meet I/O growth demands in applications such as multi-well oil and gas fields.

- Deploy EFM for gas per API 21.1 with per meter run licensing.

- Obtain flow calculations independently validated against AER Directive 17.

- Utilize ISO equations alongside AGA- and API-based calculations.

Redundant Controller with Two Expansion IO modules

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A New Breed of Process Controller

The Honeywell RTU2020 Remote Terminal Unit (RTU) is a modular, powerful and scalable process controller. When combined with Experion® PKS and its streamlined SCADA configuration with superior operator experience, it meets the most demanding automation and control requirements. Make sense of data with a single system including flow and quality calculations, line pack and leak detection information, and compressor maps.

Typical 1.8

-40 to 75°C

Built-in HART enabled I/O

Low power consumption

Designed for Harsh Environments

Reduced travel to the field

Efficient wiring with removable terminals

Integrated field device management

Best-in-class features for remote automation applications

- Built-in, HART-enabled I/O eliminates costly I/O modules and third-party hardware.

- Expansion modules extend I/O capacity.

- Natively redundant controller increases availability.

- Wireless I/O integrates ISA100 instruments without additional communication equipment.

- Remote maintenance of instruments greatly reduces travel to the field.

- Designed for operation in harsh environments from -40 to 75° C.

- Removable and plug-in terminal blocks simplify wiring and cabinet assembly.

- Integration with Honeywell's Field Device Manager (FDM) enhances diagnostics.

- Built-in EFM capability with API 21.1 compliance.

- Flow calculations independently validated against AER Directive 17.

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CONCLUSION

Across the industrial sector, there is a critical need to meet key operational, regulatory and safety objectives. Operating companies must find ways to improve capacity management, accounting, and asset integrity to maximize throughput.

The right solution for better performance and lower costs

Honeywell's RTU2020 is an out-of-the-box, standardized, fit-for-purpose solution for today's complex and distributed operating environment. The RTU2020 improves utilization of remote assets through safe, reliable and efficient asset monitoring, diagnosis and management, while reducing the user's total cost of ownership.

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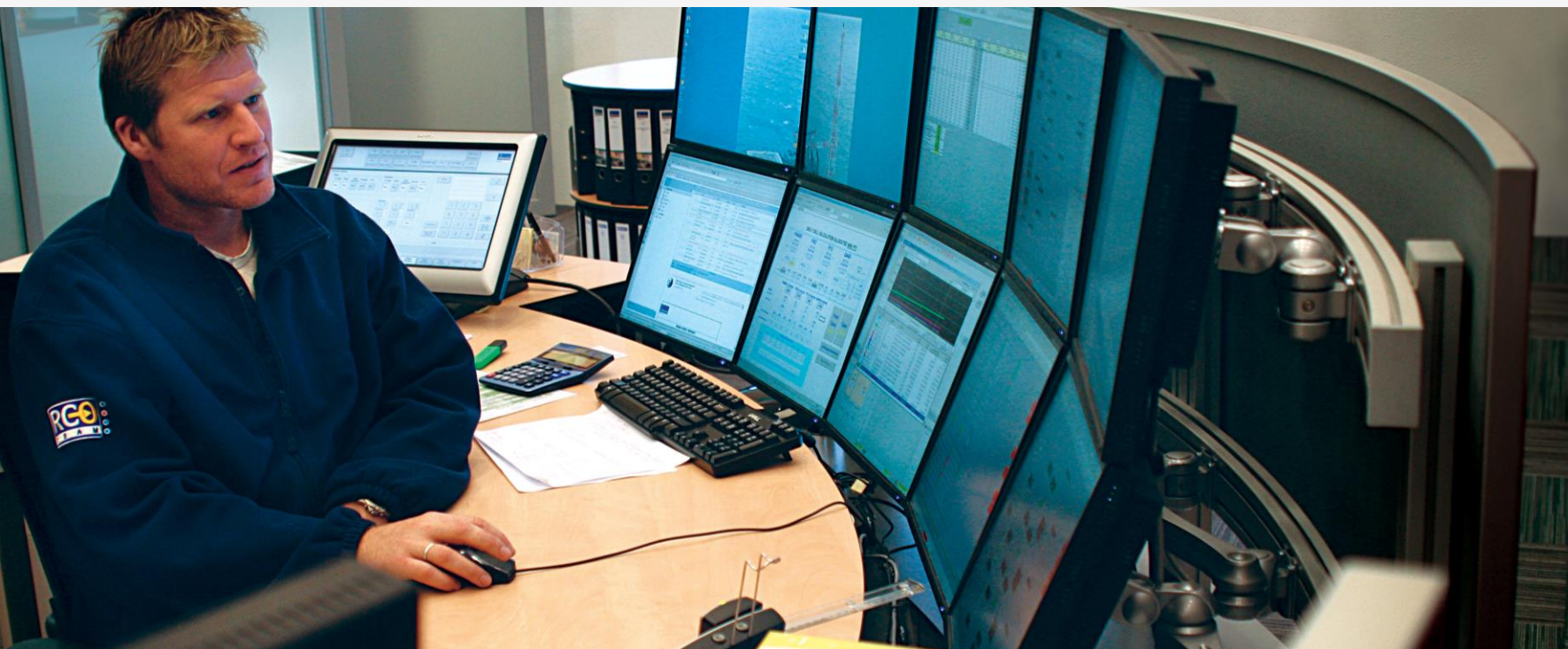
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FOR MORE INFORMATION

To learn more about how you can optimize remote distributed operations, visit the Honeywell RTU2020 web page or contact your Honeywell account manager in your region/country.

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