

INDUSTRIAL FIRE AND GAS SOLUTIONS

An integrated approach to improving plant safety,
efficiency and productivity



Honeywell

SAFETY IS YOUR TOP PRIORITY

In modern industrial facilities, hazards such as fire or explosive and toxic gas leaks can have serious consequences for the plant, its people and the environment and have a severe impact on the operating company's reputation.

For industrial organizations, the safety of their workforce and other assets always comes first.

Industrial Fire & Gas (F&G) detection and mitigation systems are intended to continuously monitor heat, smoke and toxic or combustible gas levels within plants, and provide early warning of an abnormal situation before it becomes a hazard. They are key to maintaining the overall safety and operation of industrial sites ranging from oil & gas facilities, refineries and petrochemical plants, to tank farms and terminals, pipelines, power plants, and mining and paper mills.

ARE YOU MEETING TODAY'S RIGOROUS REQUIREMENTS?

In an increasingly competitive marketplace, maintaining a high level of process safety has never been more important. Industrial organizations need to run profitable operations while maintaining a strong record of safety throughout all their facilities.

Safety initiatives require reliable data from F&G systems in order for personnel

to take the right actions for early detection and response in both process and non-process areas of the plant.

The specific requirements for plant owners include:

- Improve the safety of employees and contractors
- Eliminate hazardous accidents and process incidents that lead to financial losses
- Comply with strict industry codes and standards
- Increase uptime of production facilities
- Optimize OPEX and CAPEX spending
- Reduce engineering time and cost on new projects
- Replace the expertise of retiring workers
- Meet tight plant start-up schedules to keep ROI time as short as possible
- Minimize asset lifecycle costs
- Reduce gas emissions on site
- Protect the environment while meeting net zero emissions goals





CHOOSE A ONE-STOP-SHOP SOLUTION

There are a number of important considerations in choosing a fire and gas technology supplier. Integration of F&G systems into the overall control and safety system is a very important factor in the safe operation of modern process plants. Customers need an integrated F&G solution that

- enables the lowest overall risk
- ensures correct sensor placement for effective plant coverage with the appropriate number of gas & flame detectors
- complies with all applicable industry codes and local standards
- provides the highest value protection of their plants. Moreover, they want to utilize an integrated approach that protects their assets, workforce and the environment, while reducing engineering costs and providing flexibility for future expansions.

By implementing a unified fire & gas strategy employing the latest automation technology, plants can meet their critical infrastructure protection requirements while ensuring operational and business readiness at project start-up.

ARE YOU SEEKING A SINGLE POINT OF CONTACT?

Today, plant personnel need an F&G supplier providing a single point of contact to reduce project coordination efforts, enable efficient technology implementation and ensure long-term lifecycle support. It is important that the supplier's F&G solution include optimal placement of field devices for effective plant coverage with the appropriate number of flame and gas detectors.

As a global technology company and a major control and safety system supplier, Honeywell offers a fully integrated solution for industrial fire & gas for both process and non-process areas of industrial facilities. We provide a complete, end-to-

end product and service portfolio covering the key domains of process automation, gas & flame detection, and fire detection.

With Honeywell's capability to act as a "one stop shop" supplier, the coordination of different safety equipment suppliers is a thing of the past. Our role as a single point of contact defines a clear responsibility and minimizes interface and implementation tasks and efforts not only throughout project execution, but also after installation and commissioning of the F&G system with aftermarket support. Robust operations and maintenance tools help ensure greater productivity, and customers have the assurance of world-class products that are pre-tested and seamlessly integrated.

DO YOU REQUIRE A HOLISTIC F&G CAPABILITY?

Honeywell is a recognized leader in control, safety and security technologies. Our Industrial Fire & Gas capability differs from non-integrated solutions that involve multiple solution providers and equipment interfaces, and thus are more costly and difficult to implement, manage and maintain.

Honeywell's holistic solution reduces coordination and implementation efforts, and improves efficiency and lifecycle costs, for the entire F&G system.

Honeywell's F&G capability provides a global overview of the entire facility and ensures the implementation of best practices in safety. It encompasses the complete automation platform, networks and fire alarms, resulting in a unified system that gives users visibility and control of their critical operations in both process and non-process areas of the plant. Our integrated solutions improve safety by providing real-time alarms to quickly mitigate risks and minimize losses with the possibility to automate safety shutdown and evacuation and in doing so eliminate human error.

Honeywell's best-in-class offering includes a full scope of solutions:

- Distributed Control Systems (DCS)
- Safety Instrumented Systems (SIS)
- Emergency Shutdown (ESD) systems
- Fire & Gas (F&G) safety systems
- Gas & Flame detection devices
- Fire alarm detection systems
- Industrial security systems
- Consultancy and support services

With the Honeywell approach to F&G projects, clients can achieve:

- Single Human-Machine Interface (HMI) for process control, safety and fire & gas operations across the plant
- Common design philosophy for key assets
- Integrated "out of the box" functionality
- Optimal deployment of field devices
- Lower system implementation, management and lifecycle cost.



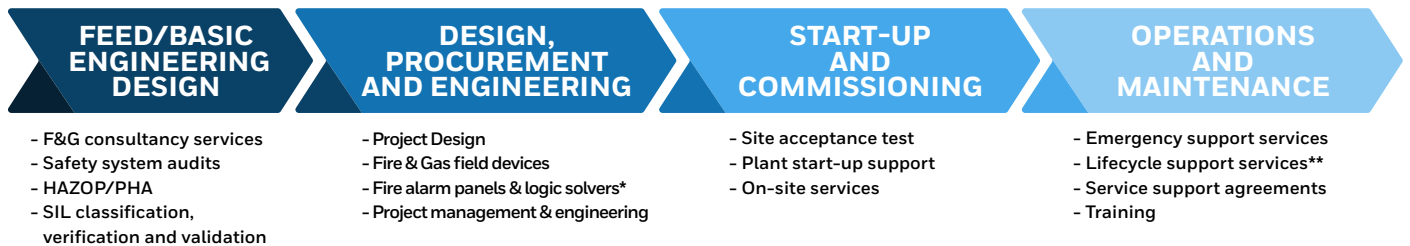
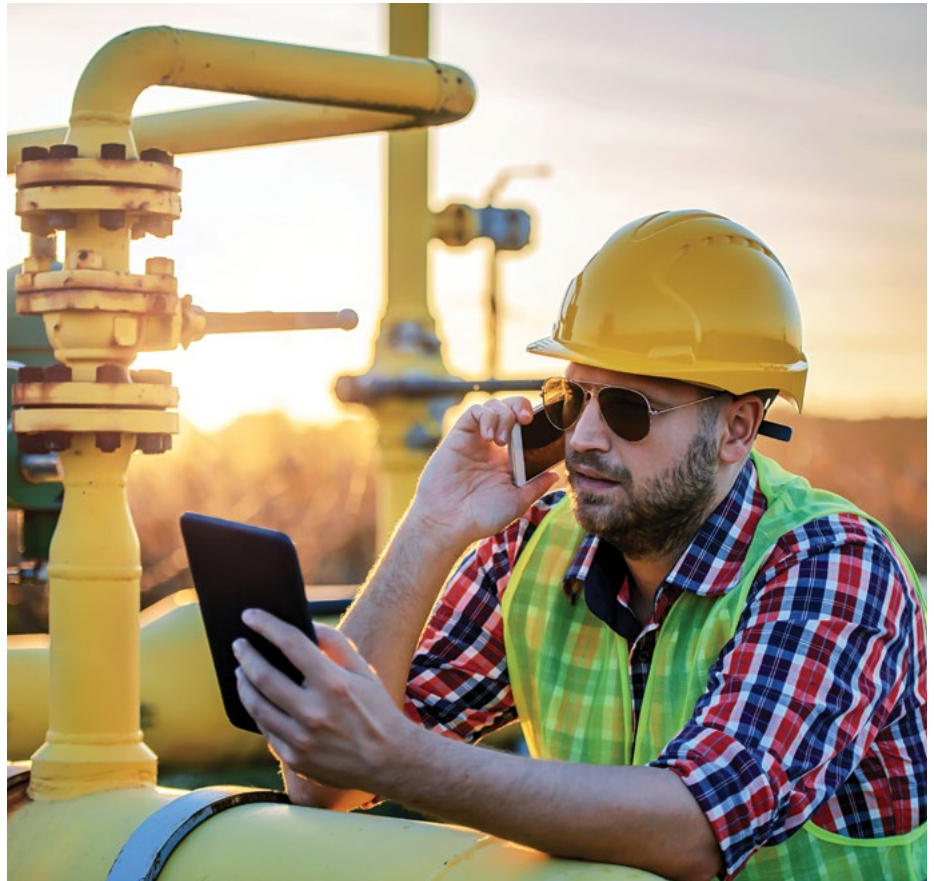
IMPROVE FIRE AND GAS PROJECT EXECUTION

Quality execution is essential to a fire & gas project's success. The different project phases must be completed in the most efficient and reliable manner. If implemented improperly, they have the ability to cause unnecessary downtime, increase costs, or even result in potential safety hazards.

ARE YOU READY TO OPTIMIZE YOUR PROJECT LIFECYCLE?

Honeywell provides global project execution and support from Front-end Engineering Design (FEED) to start-up for the most difficult industrial F&G projects. We draw on our position as an integrated Main Automation Contractor (I-MAC) to optimize F&G project results. With thousands of professional engineers working worldwide, the Honeywell team utilizes proven methodologies and tools to consistently deliver on time and on budget—even under the most demanding project requirements.

Honeywell can help simplify coordination during all phases of an F&G project, as well as reduce engineering, testing, installation, and maintenance costs. And with the assistance of a single, qualified partner, customers can minimize compatibility and integration risks due to consistent network design and the selection of common, interoperable components. This approach encompasses:



*Toxic and Combustible Gas & Flame Detectors, Smoke & Heat Detectors, Notification Devices, SIL2 & SIL3 F&G controllers, SIL & Non SIL addressable fire alarm panels.

**Migration & Upgrades, Periodic Proof Testing, System Maintenance, Extended Warranties, Spare Parts Management

OPTIMIZE PLANT OPERATIONAL PERFORMANCE

Experience has shown that a comprehensive solution for industrial fire & gas optimizes operational performance through enhanced safety, reliability and sustainability during the entire lifecycle of the plant.

ARE YOU LOOKING TO REDUCE RISKS AND LOWER COSTS?

Effective management of Fire & Gas related risk in hazardous industrial operations is a critical challenge. By implementing a unified F&G strategy and employing the latest automation technology from a single-source supplier, plants can meet their critical infrastructure protection requirements while lowering both CAPEX and OPEX.

Honeywell's Industrial Fire & Gas solutions improve safety by enabling improved compliance with safety codes, industry standards and local regulations. Seamless integration of F&G solutions with our Experion® PKS control system provides valuable engineering and commissioning advantages with increased situational awareness in case of an incident.

Thanks to our experience in executing world-class fire & gas projects across the globe, serving customers in the petroleum, refining, chemicals, power, mining and renewables industries, we have the ability to deploy a fully integrated F&G solution with the advantages of a "one-stop-shop" capability. Our comprehensive F&G consultancy service offers assistance in all phases of the fire and gas system lifecycle and provides effective system design support. It enables the optimization of required number of detectors on site and facilitates the correct detector selection and placement for enhanced coverage effectiveness. As a result, users can improve their efficiency and productivity through better detection and alarming of potential incidents to prevent financial losses.

The specific benefits of Honeywell's approach are:

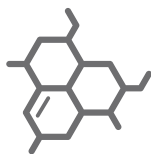
- Reduced engineering effort due to seamless integration of DCS, ESD and other systems
- Shortened project schedules leading to faster plant start-up and earlier time to production
- Reduced risk by minimizing coordination efforts and interface problems associated with disparate point solutions
- Assured equipment compatibility over the life of the project



Oil and Gas



Chemicals



Petrochemicals



Refining



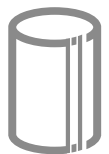
Metal Mining and Minerals



Renewables



Power Generation



Terminals

PARTNER **WITH A PROVEN** **INDUSTRY LEADER**

Honeywell is a recognized leader in delivering best-in-class industrial fire & gas technology, along with the expertise and ability to support our safety solutions locally. Our F&G products follow global and regional codes, standards and regulations, and our worldwide project engineering capabilities are backed up by skilled services teams for continued lifecycle assurance.

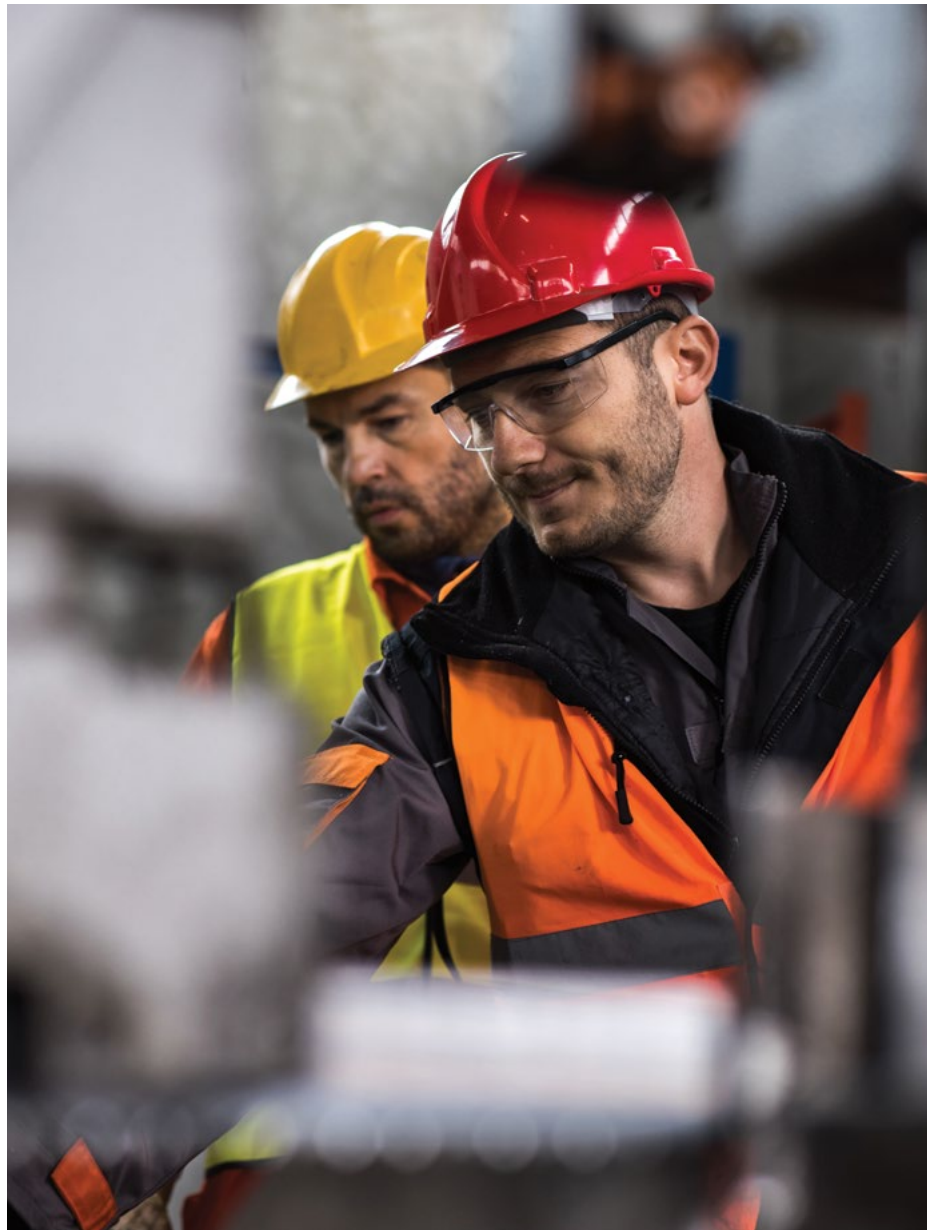
HOW HONEYWELL HELPS ITS CUSTOMERS

In addition to providing a comprehensive integrated Industrial Fire&Gas offering for the process automation industry, Honeywell's solution improves customer business performance by reducing the risk of incidents, faults and failures that cost money by disrupting normal operations.

We protect customer investment by continuously evolving technologies and providing a migration path to ensure solutions are current. Our innovation in F&G system integration improves performance while lowering CAPEX and OPEX by reducing implementation, commissioning and maintenance times.

By partnering with a proven industry leader like Honeywell, you can:

- Improve process monitoring
- Simplify system deployment
- Minimize design complications
- Enable world-class project execution
- Reduce total cost of ownership
- Enhance regulatory compliance



For more information

To learn more about Honeywell's Industrial Fire & Gas solutions, visit www.honeywellprocess.com or contact your Honeywell account manager.

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