Integrated Surveillance Solutions
for Oil & Gas Environments
Delivering proven and reliable systems worldwide.
With 30 years of experience, Synectics designs, manufactures and deploys integrated solutions that deliver complete functionality of multiple systems in a unified command and control environment.

Used globally in the largest and most prestigious oil & gas installations, to:

**Secure** assets and people in the face of internal and external threats.

**Monitor** processes and personnel to mitigate injury and risks in hazardous and explosive areas.

**Detect** issues and threats in real-time through a unified command and control platform, both onsite and via remote monitoring capabilities.

**Analyse** data from multiple sub-systems for complete situational awareness.

**Respond** to situations in the appropriate manner through coordinated responses.

**Report** to improve procedures and optimise workflows using comprehensive audit and management tools.

We support our partners through every step of a project, including system design, project management, and configuration, providing assurance that systems are engineered, configured and commissioned on time and as specified.
Synectics hardware and software products are developed in-house to be dependable, durable and easy to use. Field-proven Synectics products, including COEX™ camera stations and Synergy 3 software, create robust, integrated systems designed to protect assets, processes and people in oil & gas environments.

COEX Ex and safe area camera stations are lightweight and manufactured to ensure maximum durability. We also have a range of accessories specifically designed for hazardous area environments and oil & gas applications. These include junction boxes, wash systems, monitors, brackets, and composite cables.

Synergy 3, Synectics’ evolved command and control platform, integrates to a wide range of essential third party systems to enable seamless security and video management. Designed for professional security and process control operations that require maximum flexibility, scalability, and reliability, Synergy 3 offers new and enhanced features that expand its proven capabilities.

From assistance drafting initial specifications, to our comprehensive commissioning process and after-sales support, Synectics solutions are designed to maximise efficiency and effectiveness in extreme environments, providing assurance to customers for the life of the project.
Synectics provides highly reliable and scalable command and control solutions that deliver advanced situational awareness to leading projects across the globe.

**PROJECT HIGHLIGHT**

**Durable and Robust Surveillance for Quad 204 FPSO**

Located West of Shetland in the UK North Sea, Quad 204 is a new Floating, Production, Storage and Offloading (FPSO) unit to replace the existing Schiehallion FPSO and is expected to be in operation for more than 25 years.

A complete surveillance solution was provided for this project which included Synergy command and control and more than 80 COEX ATEX certified C3000 PTZ camera stations. The products operating on the FPSO must be able to withstand and operate in weather extremes that can cause significant ship motion and where equipment is exposed to a corrosive environment.
COEX™
Camera Stations

Specialists in Hazardous Area and Extreme Environments
Since 1985 COEX camera stations have formed the basis of our turnkey surveillance solutions. With this level of expertise customers can be confident that our camera stations are:

- Suitable for hazardous and safe area locations
- Certified to international standards
- Ingress Protected to IP66, 67 & 68
- Operational for a wide temperature range of -55°C to +70°C
- Quality assured to BS EN ISO 9001
- Easy to install, configure and maintain
- Future-proof for performance
- Durable, resilient and fit for purpose

Utilised in Extreme Environments Worldwide
COEX camera stations are situated in locations around the world, from hot desert conditions where dust and sand storms are prevalent, to harsh North Sea installations subjected to gale force winds and severe storms. In extreme cold environments, where temperatures as low as -55°C are typical, the unique Pre-Heat Mode is a valuable feature that enables start-up in such locations. With a certified temperature rating of +70°C, our camera stations deliver superior performance in high temperature environments such as those experienced in the Middle East.

Feature-Rich for Optimum Performance
Our latest generation of COEX camera stations, the C-range, have been developed to meet customer needs and the highly demanding requirements of oil & gas environments. C-range camera stations are perfect for hazardous and safe area zone designations on all types of onshore and offshore applications, and are available in fixed, PTZ, analogue, HD, IP, IR and thermal options.

COEX camera stations are lightweight, compact, and reliable, and are Ex d certified to international standards including ATEX, CSA, CSAus, IECEx, EAC-TR CU, and DNV, providing reassurance of product quality and safety. Variable speed options and high preset accuracy provide greater control for image clarity and operator satisfaction. A wide operating temperature range ensures optimum surveillance whatever the conditions.

Oil & Gas Accessories
Synectics accessories are developed and manufactured with as much attention to detail as our camera stations. This includes our range of wash systems for hazardous and safe areas, junction boxes, fibre equipment, brackets and towers. These products have been designed to work exclusively with COEX camera stations and meet the necessary certification requirements.

Standard Features
- Onscreen set-up and diagnostic display
- Single stationary cable tail
- Sunshield
- Fast swap chassis for easy maintenance and servicing

Optional Features
- HD
- IP
- Thermal
- IR
- Fibre
COEX camera stations are flexible, reliable, and durable providing superior image quality and resolution regardless of the conditions or environment.

COEX TriMode camera stations offer three modes of operating which combine day/night, mono and thermal imaging, providing the ability to see in any light condition at the touch of a button. These camera stations are utilised around the world in onshore/offshore Oil & Gas installations protecting people, assets and processes.

PRODUCT HIGHLIGHT

The C3000 HD IP with in-built H.264 AVC high profile (MPEG4 part 10) compression technology delivers a native IP output directly from the camera station.

Specifically engineered for hazardous areas and extreme environments, the enhanced COEX™ C3000 camera station is ONVIF compliant and can stream high quality 1080p video signals in temperatures up to +70°C.

Ancillary Options
- Wash systems
- Stainless steel junction boxes
- Cable
- Brackets
- Towers

Learn more about our COEX Camera Stations at synecticsglobal.com/coex-cameras
Integrated video, data and alarm command and control
Touch-screen, map-based navigation for simplicity of operation
Set-up wizards for rapid deployment
System fault and alarm management, automated workflows, and reporting
Multiple site connectivity, scalability, and redundancy
Flexible, tiered software licensing to fit any size application
Intelligently Integrated Security Management Platform

Synergy 3 delivers an open security software solution that mitigates risk, improves operational efficiency, and provides peace of mind for oil & gas operators.

Reflecting Synectics’ commitment to “hardware-agnostic” security management systems, Synergy 3 intelligently integrates with third party products and is the foundation of our end-to-end solution. By correlating real-time data from multiple sub-systems, Synergy 3 enables operators to more effectively verify, track and assess risks, and then implement appropriate workflows and procedures.

**Scalable and Flexible**
Synergy 3 delivers a range of features appropriate for small-scale to enterprise-class deployments that can be effectively implemented across a single- or multi-site operation. With four license tier levels available, customers can select the appropriate tiers or a combination suitable for their needs. Software tiers can be upgraded with enhanced features as system and operational requirements grow.

**Customising Your Layout**
Synergy 3 enables operators and managers to personalise the layout of their screen to provide the information and tools they require. Layouts can also be dynamically changed using pre-configured macros in response to system alarms and events.
Comprehensive Levels of Resilience

To ensure the highest level of failover protection available, Synergy 3 is designed with multiple layers of hardware, software, and network resiliency including:

- Device prioritisation to ensure that critical area cameras receive priority recording failover
- Hot-swap functionality that automatically redirects recordings to back-up storage devices without interruption to system performance or data loss
- System data that is replicated in real-time so all critical information from any location is protected and accessible, should a primary server fail
- Real-time health monitoring provides operators and technicians with proactive feedback about system issues or any networked device failure

PROJECT HIGHLIGHT

Resilient Surveillance Solution for Inter Refineries Pipeline II

IRP II project involves over 500 km of pipeline with 24 SV stations along the route. The Synectics system provides monitoring of designated areas and the entire pipeline corridors.

Long and short range fixed and PTZ COEX thermal camera stations are operational throughout the project to meet stringent safety and operation requirements. Synergy simultaneously records and plays back multiple digitally encoded camera streams to provide optimum reliability and redundancy.

Download our Synergy 3 brochure at synecticsglobal.com/synergy3.pdf

Guide operators through the right response with operational workflows.
Synergy 3

Integration with Key Systems

Intelligently Integrated Command and Control Platform

Video  Fire Alarms  Access Control  Communications  Radar  ECDIS  Perimeter Protection

Our approach to integration allows Synergy 3 to unlock significant benefits for our customers. With Synergy 3 you can:

- Automatically link alarm events to live and recorded video, and get real-time updates on the condition of all integrated security, safety and process control systems.
- Access sophisticated reporting and data analysis capabilities, showing essential data on incidents, alarms, camera activity and operator performance.
- Achieve cost-effective integration of legacy systems.

With increased visibility comes greater operator effectiveness, reduced site risk and improved situational awareness.

Synectics solutions enable video, security and process systems to be managed through a single, user-friendly interface. Significant levels of integration are ensured through our support of ONVIF, PSIA, OPC, MODBUS, and SNMP open standard protocols and custom interfaces for third party products which can be cost-effectively developed upon request.
Expertise, Service and Support

Synectics is committed to providing customers with swift and focused support. We deliver direct access to our technical experts to make sure issues are resolved in a timely way.

Dedication to customer service and quality are the basis of Synectics’ values. We ensure that solutions meet customer requirements, and are factory tested and configured prior to dispatch to provide peace of mind.

Delivering Project Support and Expertise
We support customers through every step of a project, from initial design through to comprehensive post-project support. Synectics complete range of services includes:

- Flexible design
- Project management
- Comprehensive Factory Acceptance Test and configuration
- Full documentation
- Commissioning and training

Our commitment to supplying spares and proven track record of providing after-sales support ensures reliable system performance for the duration of the project.

Research and Development
Through ongoing research and development by our in-house technology centre we are able to deliver products and services driven by innovation and technology advancements. This R & D activity allows us to be proactive and adaptable, giving customers confidence that our products will be operational for the life of the application.

Our international hubs, support centres, agents and Global Support Portal ensure expertise is available to customers whenever and wherever it is needed.
Worldwide Service and Support

Synectics operates an international network of service hubs, support centres and agents. Whenever and wherever customers need support, expertise is available.

Learn more about our Support capabilities at synecticsglobal.com/support
Onshore Sites

Synectics delivers a unified solution that cohesively controls and monitors onshore sites (which can be vast and disparate in both size and number of services deployed) in an integrated platform designed to deliver situational awareness. The ability to expand on existing and legacy systems through this open architecture provides a cost-effective, scalable, and efficient security management solution.

PROJECT HIGHLIGHT

Integrated Solution for Shell Pearl GTL

Synectics’ tailored solution integrates two separate systems; one to cover the plant and another to monitor process areas. This large-scale project protects onshore process areas and unmanned offshore platforms, as well as office space and the vast perimeter fence.

The specified system does not drop below 99.99% availability or have a single point of failure. Over 300 COEX camera stations are monitored from nine control centre workstations.
**Perimeter Detection**
COEX safe area camera stations are positioned the length of the fence in fixed, PTZ and thermal configurations ensuring monitoring under any light condition. Integrating surveillance with the perimeter and / or intruder detection system provides a cohesive and responsive reaction to alerts or triggers identified by automatically directing the appropriate camera stations to the zone where the trigger has been activated.

**Flare Monitoring**
Flaring is an essential safety requirement of oil & gas sites. Monitoring of the flares and their purging is typically captured by a hazardous area thermal camera station that is focused specifically on the flare to provide continuous surveillance.

**Access Control**
Integrating access control through Synergy 3 informs security personnel of possible forced or unauthorised entry into access controlled areas via generated alarms. Pre-configured COEX camera stations in the vicinity will focus automatically on the zone that generated the alarm ensuring immediate surveillance and evidence capture.

**Process Safety**
Synergy can significantly reduce the bandwidth conflicts typically associated with managing video within process control systems. In addition to the standard process control consoles, other monitors can also be used for displaying video of specific processes.

Download our Project Reference list at synecticsglobal.com/og_ref.pdf
Offshore Platforms

Technology advances have opened up access to some extreme environments and offshore fields that were previously too costly for oil & gas companies to develop. Synectics excels in these types of challenging projects and has the knowledge and experience to provide solutions that meet the specific requirements driven by such unique locations.

Remote Monitoring
The ability to view, manipulate and record images of unmanned platforms, either at a nearby offshore platform, or many kilometres away at an onshore location, is of vital importance to ensure the security and safety of the site. A central control location for monitoring multiple platforms is a necessary requirement, and the ability to switch operational control from one location to another in case of incidents or loss of network is a must to ensure constant surveillance.
**Expansion Potential for BP Clair Ridge**

Located 75 km west of the UK’s Shetland Islands, the Clair Ridge development consists of two bridge-linked platforms. Synectics’ remote viewing capabilities enable the head office to keep sight of the platform, providing a flexible approach to monitoring. With plans to utilise Clair Ridge as a hub for further expansion and development of the field, the system will be able to remain “future proof” because of its ability to adapt to additional demands.

**Extreme and Demanding Conditions**

COEX camera stations are located in some of the most extreme environments in the world, such as the North Sea where gale force winds, hurricanes, severe storms are all regular occurrences especially in winter. Across the globe our camera stations are operational at locations like these, in temperatures ranging from -55°C to +70°C.

**Future Proof for the Life of a Project**

With oil & gas installations now expected to be in production for 40 years or more, surveillance systems must be able to expand and adapt with changing needs and technology. COEX camera stations and Synergy 3 provide this level of product longevity and will continue to offer the ability to upgrade and update as technologies advance and sites develop.

Download our Project Reference list at synecticsglobal.com/og_ref.pdf
Offshore FPSOs/FSOs/FLNGs

With offshore threats increasing, assets are becoming more vulnerable. Synectics has extensive experience within the oil & gas sector to assist in securing high value applications from such threats. By integrating key technologies, Synectics is able to increase the overall situational awareness providing control room operators with early warning of potential threats.

Automatic Identification System (AIS)
The International Maritime Organization requires AIS to be fitted on all vessels. Synectics makes use of the output from this system to assist in the classification and identification of potential threats.

Hazardous area camera stations are positioned in critical areas (steam boiler areas, flare monitoring, weather decks, cranes) to monitor processes for safety purposes.

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Pazflor FPSO

Pazflor is a large scale development covering over 600 km² with water depths of between 600 - 1,200 m as well as a world-first technological development of gas / liquid separation on the seabed right next to production wells. The FPSO uses tried and tested techniques refined on the existing FPSOs of Dalia and Girassol continuing the development of Block 17, located 150 km off the coast of Angola.

Radar

Through integration to radar, Synergy 3 is able to extend its management capability to provide wide area surveillance and detection capability. Cameras can be queued to provide a visual assessment of the possible risk.

Safe area camera stations are positioned throughout the installation (helideck, walkways, accommodation, lifeboat, staircases) for both safety and security purposes.
Synectics designs integrated end-to-end surveillance control systems for the world’s most demanding security environments.

We excel at complex projects that require innovative tailored solutions with high reliability and flexibility, specifically for casinos, oil and gas, marine, public space, banking, transport and critical infrastructure applications.

With 30 years’ of high security systems experience, field proven products, and expert support personnel in the UK, US, Europe, UAE and Asia Pacific, Synectics offers its clients turnkey networked solutions for comprehensive protection and peace of mind.

Synectics’ Systems division is part of Synectics plc, a global leader in advanced surveillance, security and integration technologies and services.