

Gallagher Mining Solutions

DRIVING PRODUCTIVITY AND COST EFFICIENCY



www.gallagher.co





Mining Solutions

“Success in the mining and resources environment today is about driving productivity up and cost down.”

The mining industry's complex operating environments are driven by the need to maximise productivity at the lowest possible cost. Operational continuity and risk management along with management of health and safety, visitors and contractors, and general security factor heavily in day to day operations. Induction, training and other staff entry requirements must remain current. Handling explosives, operating machinery and working below ground pose significant logistical and safety challenges which demand rigorous planning and efficient management as well as ongoing process and system improvements.

Based on these requirements, Mining (& Natural Resources) is a key strategic market focus for Gallagher because of

our proven success and strong alignment between the specific needs of this sector and our solutions.

- › More than 150 mining customers around the world rely on Gallagher security systems (see chart), with actual site installations exceeding 300.
- › We have appointed a strategic Business Development Manager to focus on the mining sector across Asia/Pacific and The Americas
- › In addition to the core system architecture of our platform for integration, new products and functionality provide features of direct relevance for the mining sector. Examples include Gallagher Controller Logic providing the ability to trigger outputs based on programmable logic

based rules, Gallagher Trophy FT integration of perimeter security technologies, combined with an advanced concept in workforce and security management - Identity Analytics. Integrations with a wide range of third party systems enable clients to meet OH&S and other regulatory requirements.

- › Our global network of Gallagher Certified Channel Partners has significant experience in the mining sector.



PREMIER WORKFORCE MANAGEMENT SOLUTION

Through its own platform for integration and integrated third party systems Gallagher delivers the premier people & site management solution for the mining industry encompassing:

- > Integration Platform
- > Physical Access Control System (PACS)
- > Alarms User Interface
- > Cardholder Management User Interface
- > Mobile information for cardholder and alarms management
- > Visitor Management
- > Inductions
- > Training Management & Scheduling
- > Workflow to automate compliant provisioning processes
- > Expiries - automate management of pending expiries of cards or specific access across all cardholders
- > Exposure & Fatigue Management
- > Testing (drug & alcohol)
- > Evacuation & Tag Boards
- > Asset Management
- > Vehicle Management
- > Perimeter security with Gallagher integrated electric fence and sensor technologies
- > Camp Accommodation Management
- > Reporting
- > Professional Services
- > Software Maintenance Agreement

24/7 PERSONNEL FLOW AND WORKFORCE MANAGEMENT

Leveraging physical security hardware, Gallagher's mining solution gives you complete control of who can access specific areas, at specific times of day and night:

- > Who - Miners, Cleaners, Caterers, Contractors, Visitors, Consultants, Management, HR, IT
- > What - Individuals' competencies (induction, training, licenses)
- > Where - Total site security from the perimeter fence line (single or multi-site) and remote buildings, camp facilities and equipment, mine sites, through to accommodation and corporate offices
- > When - 24/7 information for cardholder and alarms management

Gallagher's platform for integration resides on your site's network providing a holistic view of access events and allowing you to govern personnel flow throughout your facilities from head office to pit to port. The Gallagher system enables you to track and determine who can go where and when throughout your site as all employees, contractors and visitors badge their programmable access cards at access control readers.

- > Cardholder movement can be tracked and controlled at doors, boom gates, vehicles - anywhere a reader is mounted.

- > The Universal Card Format tool means Gallagher readers can read a range of third party access control cards - a notable practicality and cost saving for a mining site with existing ID cards.
- > Mifare Smartcards have multiple applications beyond access control.

Case Study Example

Contractor overbilling prevention - Client achieved \$1.1 million net savings in the first month alone by simply being able to identify inconsistencies between their electronic records of actual contractor time-on-site compared to invoices.



DRIVING PRODUCTIVITY THROUGH IDENTITY ANALYTICS

Gallagher specialises in harnessing the power of real, operational business convergence through Identity Analytics. Identity Analytics automates compliance with operational and regulatory policy ensuring people are competent, safe and accountable as they move around on site. It provides a high degree of control and certainty by ensuring the right people (who are inducted, trained, licensed and competent and therefore compliant with regulations) with the right assets (e.g. vehicles or safety equipment), are in the right place at the right time, and by alerting you to exceptions.

This greatly mitigates the risk of accidents, partial or full site shutdown, and corporate liability. It can also have a very positive effect on insurance premiums. Identity Analytics provides the ability to enforce business safety and security processes via truly intelligent access control decisions on distributed hardware 'at the door'. Enforcement at the mercy of an online sever is now a thing of the past. Operating independent of your server, Identity Analytics functionality delivers uninterrupted operational continuity – even if your IT system goes down.

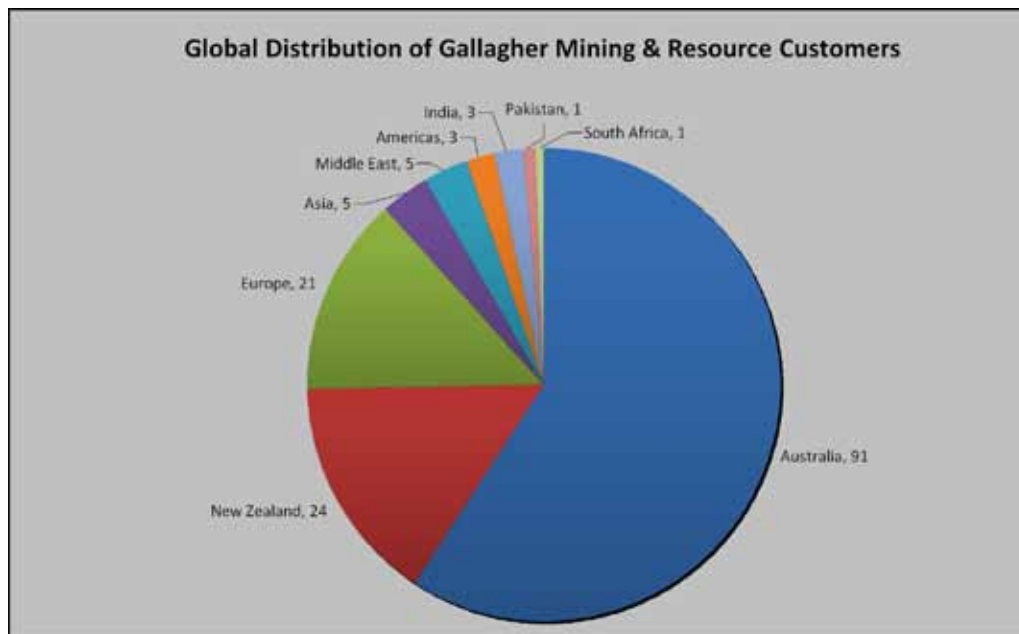
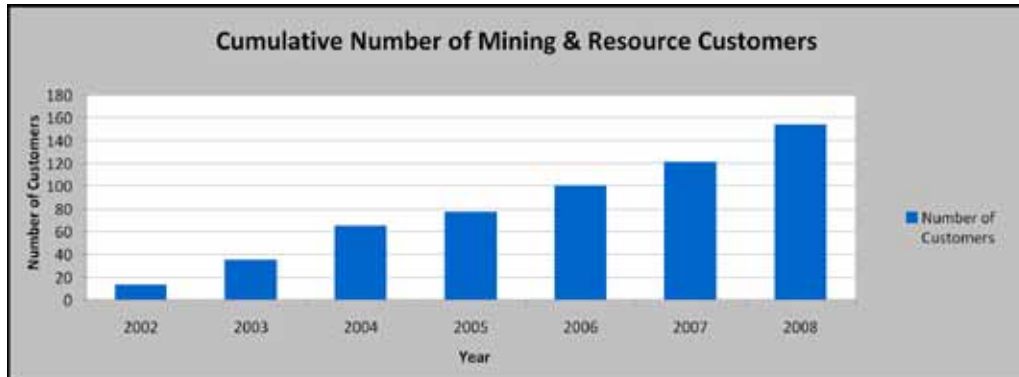
SEAMLESS VISITOR MANAGEMENT

Fully integrated Visitor Management within the Gallagher Command Centre means Visitor records are maintained within the system for re-use when required. Historical Visitor records provide an audit of all Visitor movements over time. Visitor Cards can be re-used over and over minimising the time required to enable Visitor site access and exit. Visitor Management is highly customisable to meet site specific requirements. It also enables implementation of effective evacuation processes for Visitors in the event of an emergency. Within Visitor Management different types of visitors can be granted different access based on their access requirements and have different information stored against their records.

CONTRACTOR MANAGEMENT

Contractor access can be granted and controlled based on the time/date they are supposed to be on-site. Automatic revocation of cards prevents unauthorized access after their contract has expired. Time on-site can be tracked for billing purposes and can be used to audit if contractors are on-site for maintenance or repairs as scheduled.

Global Installations



Identity Analytics in Action

Leverage the information held within your organisation's disparate systems to deliver an unprecedented level of granularity and discretion in personnel flow and workforce and resource management.

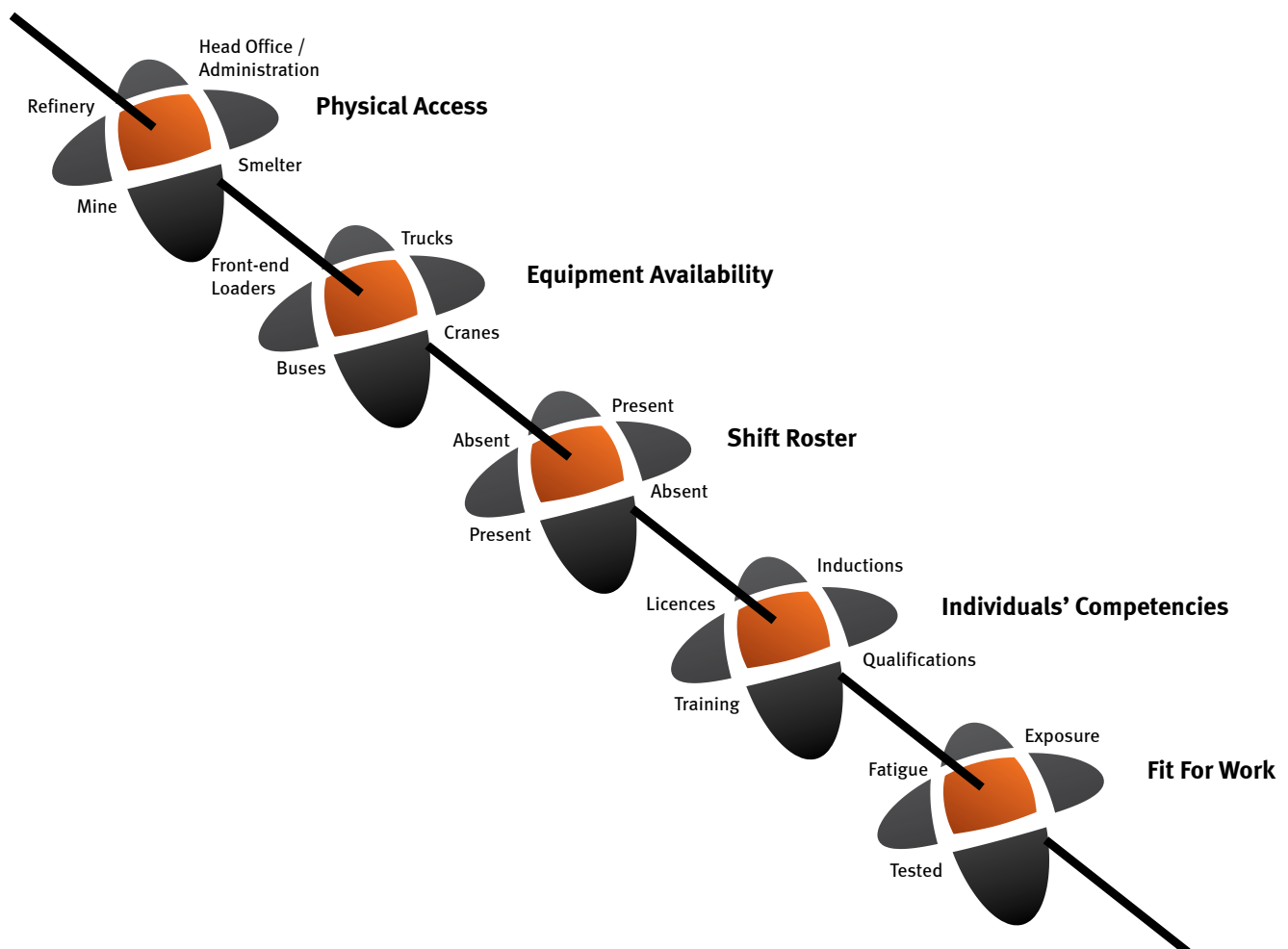


Diagram displays different combinations of variables that can factor into the enriched access decision. Example: Determine availability of equipment and competent staff who are compliant with policy to produce maximum output for shift.

Drive Compliance with OH&S Regulations

Cardholder information can be recorded in the Gallagher system and shared bi-directionally with existing HR/people management systems for accurate, real-time use. Staff records provide a full audit trail to ensure compulsory training and testing are undertaken. This minimises corporate liability and enables organisations to meet their Duty of Care.

TRAINING AND INDUCTIONS

Inductions, Licenses, Qualifications and Training can be facilitated and monitored within the Gallagher system.

Configure your training matrix and automate compliance:

- Inductions can be associated with an area, so that when a Cardholder is given access to the area the required Inductions are automatically applied. The Cardholder will not be able to access the area until the Inductions are completed.
- When Inductions are completed the access that they enable can be automatically added to the Cardholder

Enables a site to also manage access based on parameters such as:

- Contracts and insurances – ensure a Contracting Company has a contract with your company and has current insurances in place
- Through integration with a third party system, roles (such as Production Officer in SAP) could translate into access into all of the smelters within your company

Can be seamlessly integrated with multiple external training or other systems, thereby eliminating duplication of entries.

- For example, creation of a new employee in your Human Resources system along with their qualifications can automatically create a Cardholder in the Gallagher system. Coupled with the Induction process in the Gallagher system, access can be automatically granted, with no human interaction.

DRUG AND ALCOHOL TESTING

Through integration with third party systems, Gallagher enables mine sites to comply with OH&S regulations by ensuring automatic, random drug and alcohol testing. The system is configurable to meet the testing and selection processes of your site:

- Can be utilised to test based on a range of parameters extending its functionality beyond drug and alcohol testing i.e. can randomly test on key induction questions to ensure core knowledge of staff is maintained
- Can be configured to integrate with Fatigue Management to ensure checks such as hydration or heat stress etc can be performed on the personnel that require it the most.

FATIGUE AND EXPOSURE MANAGEMENT

Integration with third party systems automates fatigue and exposure

management to ensure only anomalies are raised for attention.

- Check for events such as who has been on site for too long, who has not had sufficient break or who has accessed the site too many days in a row
- Actions such as disabling Cards, alerting Managers or alerting the Cardholder can be initiated based on breaches of pre-defined rules
- Ensures regulatory mandates are followed and that your people are safe and less likely to injure themselves or others.

ACCESS EXPIRIES MANAGEMENT

Through integration with third party systems cardholder access management is completely automated for a proactive approach to dealing with pending access expiries.

- Set up checks for Cards, access or training that is going to expire
- Rules can be set up for expiries pending within a user-defined period, e.g. 30 days, with varying degrees of action in accordance with the level of urgency
- Send expiry alerts out via SMS or email to the Cardholder affected and to anyone else who needs to be informed.



EMERGENCY MANAGEMENT AND SITE LOCKDOWN

In the event of an emergency real-time Cardholder location data can be provided. As Cardholders move from an unsafe area to a muster point, their names move from one part of the Operators screen to the other. The screen can also be used as a Tag Board outside any areas that require visibility of who is or is not in an area. Partial or total site lockdown during threat or emergency situations allows only a selected group of staff (e.g. rescue or medical personnel) to enter and exit locked down zone/s.

EVACUATION AND TAG BOARDS

Evacuation and Tag Board functionality provides the ability to find groups of people quickly across a large site.

- > Any number of Areas can be configured for different site views e.g. to show all people in all mine shafts on site
- > Cardholder movements are immediately reflected in the system site-wide providing all operators with a single, real-time view
- > Efficient staff and visitor evacuation in the event of an emergency
- > Through integration with third party systems or customisations, automated electronic Tag Boards, allowing operators to know who is in an area.

WORKFLOW MANAGEMENT

Through integrated third party systems, inductions and access can be configured and managed to ensure no one person can allocate and enable access without a number of configurable checks being

completed. Once established, access can be enforced by the Gallagher system (no human action required) to ensure compliance with site processes.

DVR/CCTV INTEGRATION

Integrated DVR or CCTV systems provide a visual and auditable record of system events. DVR feed can be viewed live by an operator or can be viewed in response to an event and can be relied upon to provide evidence if needed.

Gallagher is the only manufacturer world wide to produce a fully integrated access control, intruder alarm and perimeter security system.



PROTECT HIGH SECURITY AREAS

High security areas such as explosives store rooms and gold stores can require tighter security measures. High level integration of SAGEM fingerprint readers, provides an ideal solution, delivering both identification and verification.

Seamless fingerprint enrolment and template management is achieved from within the Gallagher system user interface. Only the relevant fingerprint templates are sent to each reader, saving reader database space and cost. The readers immediately reflect schedule and access group changes in Gallagher Command Centre.

In addition, the integration allows the option for duress fingers to be enrolled for tighter security. If a duress finger is presented at a reader, access is granted as per normal access privileges, but an alarm is raised to alert the operator of a duress situation; this is a significant feature for increased staff and site security.

ACCOMMODATION MANAGEMENT

Day to day campsite accommodation access through the CommCard solution (integrated Salto wireless door locks) is an ideal replacement for

the traditional key and lock method. Camp accommodation access can be a logistical challenge to manage, as keys can easily be lost meaning locks and keys have to be replaced at high ongoing cost. Gallagher provides a cost effective electronic access control solution through a high level interface with Salto wireless, offline access control door readers. Employees are able to use their single Mifare ID access card to gain access to housing as well as other more highly secured areas within the mining environment.

PERIMETER SECURITY (PROTECTING MULTIPLE REMOTE SITES IF REQUIRED)

With vast perimeter areas and often remote sites, perimeter security is vitally important to mining organisations both in terms of protecting and securing staff, resources and equipment and also fulfilling their 'Duty of Care' to the public by ensuring they cannot access potentially hazardous areas.

Gallagher's Trophy electric fence systems actively deter would-be intruders and trespassers and detect attackers. The system consists of a grid of electrically pulsed, high tensile, wires that can be constructed inside a new or existing perimeter fence.

Gallagher perimeter systems are non-lethal and, without a doubt, safe; they meet international safety standards. The perimeter fence system can be divided into zones which are individually monitored so that in the event of an attack, security staff or a monitoring company can pin-point which zone is affected and respond appropriately.

Through high level integration Gallagher's Trophy FT perimeter security system can be configured, controlled and monitored within Gallagher Command Centre software. All alarms from the perimeter are logged in Command Centre and monitoring staff can respond accordingly. Integration with imaging systems means attacks on the fence can be viewed and recorded providing a comprehensive audit trail of events and seamless site security. Multiple remote sites can be monitored and protected at a central point using the Gallagher system.

OPERATIONAL CONTINUITY THROUGH INTEGRATED VEHICLE / FLEET MANAGEMENT

Driver based automatic vehicle identification (AVI) offers fast, convenient and secure vehicle access for authorized drivers. This solution ensures that a vehicle can never leave,



or get access to a secured area unless occupied by an authorized driver. Vehicle and driver access traditionally requires the driver to stop and badge or present their access card. This can often result in traffic congestion around access points / gates. The Gallagher solution allows vehicles (both trucks and cars) to activate gates far enough in advance (up to 10m [33 ft], at speeds up to 200 km/h [125 mph]) which eliminates the need for vehicles to stop, ensuring an uninterrupted flow of traffic. This is a notable feature for mining sites where it is disruptive to stop and start heavy machinery.

COMBINED DRIVER & VEHICLE ID BASED ON EXISTING ACCESS CONTROL BADGES

The option of combined driver & vehicle identification increases security as you know exactly who was driving which vehicle. Additionally you can also monitor fluid driver and vehicle situations. Gallagher provides the ability to identify driver and vehicle simultaneously delivering totally hands-free access to the mining site. Safety is improved by eliminating the need for drivers to reach out a vehicle window to badge their access token at a stationary reader, which is typically required with card-only vehicle access.

IDENTIFICATION OF MULTIPLE PASSENGERS

All employees in buses, which transport employees from their accommodation to the mine site, need to be identified. Controlling this manually results in congestion and reduced traffic throughput as typically everybody needs to exit the bus. By identifying all vehicles and drivers, the Gallagher system can provide an audit trail of people on site which can be used for effective OH&S management and to ensure staff and resources are available to deliver maximum output for each shift.

VEHICLE IDENTIFICATION PROCESS AUTOMATION

The vehicle identification system can also be applied to automate the process of managing vehicles on mining premises. Contractors that come on site can be identified automatically and, when authorized, are granted access to the premises. Their vehicle can then be guided to the designated area for loading/unloading. The vehicle can be identified at weighing bridges, and weighing information can be linked to the vehicle ID number. Information regarding vehicle activity on site can be automated and monitored via the central management system.

Case Study Example

Integrated camp management and catering management system – delivered \$3.5 million in savings in one year for client by providing clarity on actual numbers of staff to be catered for.



Case Studies:

TRUenergy - Yallourn

Xstrata Copper - Mount Isa Mines

TRUENERGY - YALLOURN

TRUenergy's Yallourn power station supplies approximately 22% of Victoria's power supply and 8% nationally; this is enough to supply around two million houses. The adjacent Yallourn coal mine is Australia's second largest open cut mine. It annually mines around 18 million tonnes of high moisture brown coal.

The induction process at Yallourn is closely linked with the management of access control. Yallourn uses its own HR system called "Alesco" to enter all the details of everyone on-site. Any new personnel or contractors go through an induction process that involves completing a comprehensive questionnaire regarding the power station and mine - a process that takes about 1.5 hours. Once the individual has successfully completed the induction questionnaire, the person's details are transferred to the Gallagher system. An ID card is then produced via Command Centre, and appropriate access privileges are assigned to the person.

The beauty of the integration between the Gallagher and the HR induction systems is that it provides a seamless, fully automated interface between the two systems, resulting in the reduction of double handling of information and

a quick induction process. This is ideal for the Yallourn site as it cuts down the processing time of its large number of staff and contractors on site.

The flexibility of the Gallagher system is a great asset to TRUenergy, especially when large projects are undertaken. Gallagher has enabled Yallourn to cater for its changing requirements. For example, while a river diversion project was in progress Gallagher access control was able to be implemented at remote areas across the mine via their wireless LAN. The main benefit of this was that a full, real time audit trail of everyone on site, including contractors entering the remote temporary construction area, was able to be kept.

XSTRATA COPPER MT ISA MINES

Gallagher helps manage the risks of underground mining at Xstrata Mount Isa Mines.

"The powerful software lends itself well to integration with other third party software applications to allow better management of security, health, safety, access control and contractor management. I wouldn't hesitate to recommend it."

*Darren Bracey, Xstrata Copper's
Emergency and Protective Services
Superintendent at Mt Isa Mines.*

Reference sites can be supplied on request.



GALLAGHER'S PROACTIVE INDUSTRY INVOLVEMENT

Gallagher seeks to engage its markets through constructive and proactive industry involvement. We are proud to have established the 'Mining and Resources Security User Group', one of several independent forums, initiated by Gallagher and now driven by their members. MARSUG provides an open environment for sharing information around best practice security and facilities management within the unique mining and resources environment. MARSUG is designed for Gallagher system users and companies whose

core business is the focus of the group (no vendors, unless invited by the group). The forum provides a valuable and efficient means for the mining industry to feedback its specific security needs and challenges to Gallagher.



About Gallagher

Established in 1938, Gallagher Group Ltd is the operating company for an international organisation which encompasses research and development, manufacturing and marketing of its security, fuel pump and animal management systems.

ABOUT GALLAGHER

Worldwide, Gallagher has a reputation for supplying state-of-the-art, reliable solutions to address the most significant issues facing organisations large and small:

- > Security and risk management
- > Personnel workflow
- > Business continuity.

Drawing on our competencies of security knowledge and expertise, secure data management and systems integration, our offering is expanding. We are moving towards a suite of systems that can be fully integrated and securely managed through allocated privileges to authorised users.

We pride ourselves in our agility and

dedication to delivering innovative and imaginative security solutions. Our goal is to redefine what's possible for our customers.

PROFESSIONAL SERVICES

Gallagher provides a range of Professional Services and welcomes the opportunity to work with customers and Certified Channel Partners to add value to the implementation of its systems on customer sites. Examples of services Gallagher can provide include:

- > Project management - typically for large, global customers
- > Strategic planning and migration paths – planning for future requirements
- > Requirements analysis and customizations – changes required to

Gallagher developed software to meet the customer's requirements

- > Integration – development of middleware to provide an integration between two or more systems
- > Database conversion and preparation
- > Configuration and advanced system programming
- > System audit
- > Preparation and implementation of software upgrades

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