

# EPC FOCUS

News on  
concentrated  
energy

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## EDITORIAL / 2016

# Respect for People and efficiency – one and the same goal

Since its creation, EPC has always led from the front. This sixth edition of your magazine is once more proof of this. In appearance, it has been completely revamped. In content, its main focus is devoted to the launching of Esprit d'Équipe, which is a great business project. As you will see when you read the Dossier, and as many of you have already experienced, Esprit d'Équipe is based on one of the fundamental values of EPC: respect for one another, customers as well as staff. Team Spirit is a state of mind to share, whose benefits go far beyond safety. Indeed, when you are safe at work, you are happy at work. And if you are happy at work, you work more effectively.

**Olivier Obst**  
Chairman



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■ **DOSSIER** / Esprit d'Équipe

## The whole of EPC is engaged in a continuous improvement initiative

It's nearly a year since Esprit d'Équipe was launched, and the project is now yielding results. Here and there you notice initiatives to raise awareness and change behaviour in matters of safety. The strength of Esprit d'Équipe lies in sharing and exchanging ideas. So let's start sharing!



→ Esprit d'Équipe, one for all, all for one, everyone's a winner!

On 22 January 2014, Olivier Obst, Chairman of EPC Groupe, announced the official launch of the 'Safe Behaviour At Work' project. In order to achieve our goal of Zero Accidents, as set out in our Health, Safety and Environment policies, a new approach has been adopted. This is based on analysing our individual behaviours and the effect they have on our joint safety. Intended for use in all EPC's subsidiaries across the world, it is being tested first in several pilot sites. Over the next year, everyone will discover Esprit d'Équipe, adopt it and adapt it, then put it

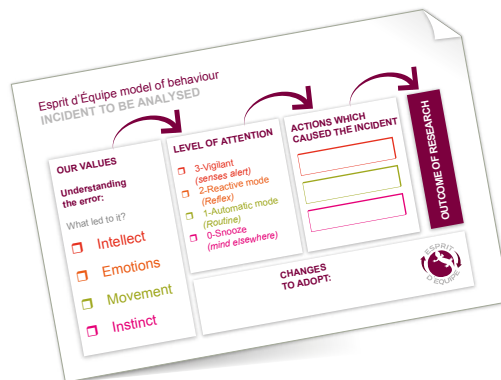
### More than 80% of safety incidents are linked to behaviour

into practice in small training sessions attended by colleagues from different areas of work and different levels in the organisation. The roll-out has begun!

#### SAFE BEHAVIOUR

The whole principle of Esprit d'Équipe is based on the human being. In particular, the behaviour we adopt at work, which can have a positive or negative impact on our safety and the safety of colleagues. Safe behaviour consists in improving our culture of safety at work, and adopting a collective approach. It analyses every type of safety incident

from the point of view of behaviour. In other words, each person must say, 'I am at the centre. My behaviour and level of attention are due to certain impulses'. The Esprit d'Équipe concept consists in learning to be aware of the importance of behaviour and its mechanisms, in order to understand it better. The goal is to encourage a better mastery of behaviour and thus improve our safety record. It is never a matter of attributing blame! It should be noted that 80% of safety incidents are connected to behaviour. Behaviour which can be affected by factors as varied as our values and beliefs, our intellect and instinct, our emotions and our movements. In practice, there is much scope for improvement!



**The reference model for analysing safety incidents.** Each subsidiary is free to adopt the above model, or choose another. The only proviso is that the values of 'E.S.P.R.I.T.' are followed: Ethics/ Safety/Passion/ Respect/Teamwork. May the goal of Vigilant be reached!



#### ESPRIT D'ÉQUIPE AS EXPERIENCED BY...

Ashley Haslett, Administrator for Health, Safety and Environment for the Atlantic Zone



**“** The first stage in the Esprit d'Équipe Journey is understanding the master model. To do this, I try to encourage everyone to analyse their actions by reference to the model. Recently, we took time to have a conversation with an operator who had experienced a hazardous situation at work. He had identified certain improvements in another context which could be applied to this particular situation. We therefore decided together that he should put into practice this change in behaviour in future, in order to make one of his tasks safer. It's by adopting these types of small changes in our behaviour that we will improve the safety record of the whole team’.





In 2014, our Chairman launched this new initiative in the enterprise culture of EPC.

### A SHARED OUTLOOK

Esprit d'Équipe is not concerned with pious wishes or an obscure concept. It's a concrete fact. A reality for every moment, lived by everybody. It may seem obvious, but Esprit d'Équipe is first and foremost about belonging to the same team. In a workshop, on site, in offices, at a quarry, in a mine, in a subsidiary, in a zone, in EPC Groupe. Esprit d'Équipe means telling yourself that there is always something that can be done for the safety of your neighbour, just as my neighbour can also do something for my safety. Esprit d'Équipe means meeting regularly to exchange experiences, review our actions and prepare new initiatives.

### ESPRIT D'ÉQUIPE IN ACTION

All our subsidiaries and the staff who work with them have benefited from training specifically designed for putting Esprit d'Équipe into action. Each subsidiary can adapt the analysis model for safety incidents (see diagram) to suit their specific

requirements, as long as they respect the values of the Groupe. Our colleagues in Guinea and Ivory Coast, for example, decided to hold a QSSE briefing once a week in the local dialect. Our Morocco and Demolition subsidiaries on the other hand chose to train a group of managers who then took charge of training on site. In France and Belgium, training is carried out on a pyramid basis, trainees being either nominated or self-selected. However, some basic principles must be respected, wherever the training is carried out. The Esprit d'Équipe approach must be part of our daily lives. It is an awareness-raising



→ Our friends in Guinea 'take five minutes pour Esprit d'Équipe' the safety ambassadors raise awareness amongst employees from different departments.

**Analyse our individual behaviours so as to achieve the ultimate goal: vigilance**

**Take individual responsibility for our actions and the effects they have on others**



### Esprit d'Équipe pervades the whole Atlantic zone !

As Ashley's account has already illustrated in this Dossier, our colleagues at EPC-UK haven't been slow to adopt Esprit d'Équipe. Almost twenty 'Safety Ambassadors', as they are called, put themselves forward voluntarily to breathe life into the project. They set themselves eighteen months to reach their goals, by means of all sorts of initiatives decided amongst themselves and approved by management. These included organising Safety

Days, sending out personalised mailshots and having a 'Safety Charter' signed by the employees. GO AHEAD!



**ESPRIT D'ÉQUIPE AS EXPERIENCED BY...**

Amélie Roland, Health, Safety and Environment Representative, Continental Europe



**“** I see Esprit d'Équipe more as awareness raising than training. Real situations are simulated which are aimed at making us aware and making us reflect personally on our mutual behaviour. Each person must be aware of their safety and also the safety of their colleagues, at all levels of the organisation. Esprit d'Équipe is everyone's responsibility, not just the management's! Several sessions have already been organised for EPC France – Belgium. At each session, the participants say that they wish to change certain habits. For myself, when a hazardous situation arises, I concentrate more on the behaviours which gave rise to this situation and in particular on the material aspects. Many people could not believe their actions could trigger such results! **”**



→ On the 8th of January 2015 in Morocco a working group composed of collaborators from various EPC companies kicks start Esprit d'Équipe.

project that applies all the time, even during the few moments of a coffee break or before the working day begins. Another essential point is to involve all staff. The method must be presented to all teams. If some staff are reluctant to take part, be sure to involve them, and publicly congratulate colleagues on changes in behaviour that they adopt. The ultimate key to success is getting

### Safety, management, productivity... Esprit d'Équipe can be applied to all domains

everyone involved. All those who have completed the training must set an example. Have respect for pace and regulation of work, avoid a 'breakdown' of EPI... it's important to set an example that others can follow. Each action embodying Team Spirit is like a small seed which will grow into a tree which will become the forest!

### A LIVELY AND CHEERFUL SPIRIT

It's been said before and is worth repeating: the whole Esprit d'Équipe approach rests on the human being. Its continued existence depends on how we bring it to life. To do this, there is no need to set out grand strategies. All that's needed is to act simply, logically and openly.

For instance, encourage colleagues to declare all hazardous situations in order to analyse each incident together. Inviting two or three Esprit d'Équipe ambassadors for a coffee and friendly chat is a good way of showing them that their roles are appreciated. Another good idea would be to

start a reward system (prizes, publishing results, awards...) to encourage others to copy good practice. Regular visits to work places and sites, making short videos and photographic records illustrating hazardous situations are excellent ideas. There are many examples. All that matters is to take part and make progress. Together. ●



### ESPRIT D'ÉQUIPE AS EXPERIENCED BY...

Pascal Lacourie,  
Managing Director, EPC France;  
Director, Continental Europe



**“** 'Esprit d'Équipe was the theme for the annual seminar held by EPC France for its managers, attended by 23 people. To illustrate the best behaviour to adopt in key management situations, we put our colleagues into a situation where they had to deal with a horse! They had to give the animal instructions purely by gesture. The feedback from the horse was immediate. It was a revelation. In just five minutes we saw determination, confidence, the ability to communicate... the goal was achieved perfectly with this training which taught how to have confidence, listen, find one's place, be believed... These sessions of horse management revealed a strong group. The more you understand yourself, the more you understand others and the more you have Esprit d'Équipe. This applies equally to management, safety and all other aspects of the business'.

ÉTHICS

PASSION

INNOVATION

# ESPRIT

SAFETY RESPECT TEAM WORK



### ESPRIT D'ÉQUIPE AS EXPERIENCED BY...

Michel André, Deputy Head  
of Logistics EPC France



**“** 'With Esprit d'Équipe, you learn to question yourself, to adopt a new vision concerning your work, which is sometimes difficult to see when you're on your own at your work station. I was able to gain a better understanding of what I was doing previously without realising it. Now I don't hesitate to take quarter of an hour every morning to reflect on the tasks for the day ahead. And I encourage my colleagues to do the same, because I know this will save a lot of time later on! During our training, we did little role-playing exercises which helped us see that you make better progress by linking arms and working together. For me, Esprit d'Équipe means making your individual work contribute to the joint advantage'.



→ Esprit d'Équipe is a state of mind. And to share it what could be better than moments spent in good conviviality?



### Esprit d'Équipe ambassadors

These members of staff are ambassadors for our values, the guarantors of our commitment. Team Spirit ambassadors are not nominated; they volunteer. Their position in the organisation has no bearing on their importance with regard to safety matters. Neither does their experience, function or nationality. All the ambassadors

have received special training and are aware of the role of behaviour in the prevention of accidents. They undertake to explain, using the model of behaviour analysis, every incident, every hazardous situation, every accident and near-accident, whether closed or not. They also undertake to encourage more ambassadors to come forward, and help to develop initiatives to improve the safety at work culture.



## PORTRAIT / Sasi and Nithin

### AREX Generations

One is aged 65. The other is 27. They are not relations but colleagues in the same business. Even if AREX is a bit like a second family for both of them! Introductions.

“

**I've stayed at AREX because I like the very positive atmosphere**



→ **Easawaramangalath Gopalan Saseedharan, "Sasi"**, Maintenance engineer, has worked at AREX since 1978

**What are your respective jobs, briefly?**

**Sasi** : I am responsible for maintenance and repairs to production units. I am also involved in different projects like the development of the site. I have first aid and fire training as well.

**Nithin** : My job is to coordinate orders

”

**Young people bring freshness, new ideas, and they are listened to**



→ **Philip Nithin Mathew**, Commercial Assistant, joined AREX in 2015

received from customers and orders to suppliers. I have an interface role between production and the finance department.

**How did you come to work in AREX and in the realm of explosives?**

**Nithin** : My father worked in AREX from its

beginnings in 1978 up to last year when he retired. I was born and raised in Ras Al Khaimah as a member of the big AREX family !

**Sasi** : I was working for Sheikh Kalid when he co-founded AREX. On 1st November 1978, I was asked to supervise the building of the factory. That was nearly 40 years ago !

**How have you helped each other?**

**Sasi** : I took part in the construction of the factory, I saw AREX go from 6,000 tonnes sold each year to 27,000... I am a sort of father figure ! I try to use my long experience to help my colleagues and the business.

**Nithin** : As a young recruit, you can bring freshness and new ideas. Also I've got modern I.T. skills which can be shared.

**Do you work as a team at AREX?**

**Nithin** : All staff follow an annual training programme carried out specially by the UK's Institute of Quarrying. People then choose to specialise in particular disciplines ... everyone brings their skills set.

**Sasi** : Machine operators, drivers, managers... we all work as a team. It's not unusual to see drivers helping in the factory when they have finished their deliveries.

**What is your future at AREX?**

**Nithin** : At the moment I'm studying for a management qualification with the Institute of Quarrying. I'd like to develop my skills in the area of accounting and ISO systems.

**Sasi** : I'm still very happy doing what I do. Every day there are new technical challenges. I'm not in a hurry to retire... it also depends on AREX! ●



## ACTU / Nomination

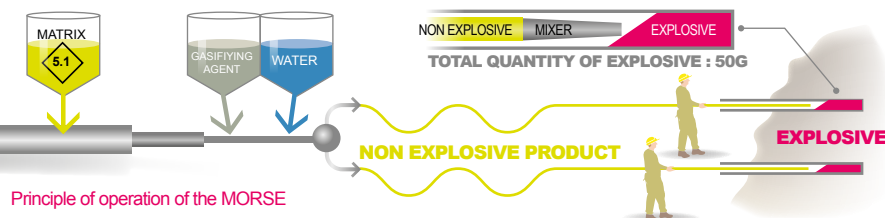
### Éric Krolop, new Managing Director, EPC Norge

Éric is one of many members of staff to benefit from career development opportunities offered by EPC. After having climbed the ladder at EPC Belgium, this mining engineer with commercial experience joined EPC Norway on 17 August 2015. Éric will be able to count on the long experience and skills of EPC and a neighbouring production plant in Sweden, to develop EPC's presence in quarrying and civil engineering, sectors which are more stable than mining. Good luck, Éric, or rather, 'lykke til'! ●



## MORSE : bulk emulsion making its mark

In 1997, EPC France developed a dedicated production unit for use in underground applications. The MORSE was born. Since then, this technology has continued forging ahead.



From 1990, the replacement of gel explosives by emulsions was already an important technical advance. The products no longer contained pure explosive substances, so it became easier to envisage moving their production to the site of utilisation. A few years later, EPC created the MORSE system, which stands for MOdule for Repumping and Sensitising of Emulsion. It was not long before this innovative idea became an established system. Thanks to this technology, 95% of underground sites in France that are drilled and blasted are operated by EPC.

### IT'S IN THE BAG

The MORSE module takes the form of a machine welding unit made of a rectangle of stainless steel, with various handling points. It can be fixed on several different types of vehicle. It consists of a removable tank containing the emulsion matrix (non explosive) and three reservoirs containing gassing agents and water. Four pumps deliver the dosages which are sent via two loading tubes 25m in length. At the end of these tubes are static mixers or cannulas. It is only when they arrive in these cannulas that the components are mixed, at which point

they become explosive following gassing. Today, 25 MORSE units are in use in France and Europe.

### CONVINCING ARGUMENTS

MORSE has superseded traditional explosives (dynamite and cartridge emulsions) because it has all the advantages. First the production of explosive emulsion directly in front of the rock face contributes to the improvement of safety and security in limiting the handling and storage of pyrotechnic products. Moreover, the production unit does not contain more than 50g of sensitised explosive (see diagram). With regard to productivity, MORSE

**Safety,  
productivity,  
economy...  
MORSE  
has much  
in its favour**

is highly efficient with its mechanised loaders controlled by two operators and its bigger drilling surface. These factors produce considerable time saving! Finally, it has a positive effect on drilling costs as it reduces the number of holes and keeps the amount of storage required to a strict minimum. These arguments make a crucial difference on sites as varied as mine workings in narrow galleries, and drilling wide-section tunnels with several drilling points requiring transport by road (ADR chassis) or on site.

### MORSE in figures:

**More than 30 km**  
of tunnels excavated  
**4,000 t** of explosives  
manufactured on site

### Tunnel site

**Lyon Turin Railway :  
3.5 km and 900 t**  
of explosives



→ The handling of explosive is limited to the detonator and priming cartridges.

### OPTIMUM OPERATION

Three operators are all that are needed to load the blast - one for each cannula and one to control production on the unit. These three are required to have completed mandatory training and certification for explosives manufacture. The explosive product loaded into the hole in the mine is emulsion primed by a booster. As an example, for a blast of 90 holes, the time for pumping bulk emulsion is around 45 minutes. It is possible with emulsion to have a complete refill, to achieve the optimum transfer of explosive energy depending on the type of

### MORSE, a technology in constant evolution

rock. The emulsion and therefore the energy can be varied, thus allowing the quantity of explosive to be adapted in real time according to the resistance of the material. New matrices are also being tested, with a view to reducing the number of ammonia type gas emissions, on the Lyon-Turin Railway site, which is around 3.5 kilometres and uses nearly 900 tonnes of explosive on site, adding to the long list of applications of MORSE. ●

→ MORSE is now the standard system for drilling mining galleries.





## TECHNO / Underground bulk

### Complete made to measure service in Sweden

At the Björkdal mine, EPC Sverige has not changed lead into gold, but has turned challenges into opportunities. And for the customer, that's worth its weight in gold !



→ Sensitising emulsion on site, adapted to the constraints of subterranean mines in Sweden.

#### A DEMANDING SITE

A mixed exploitation (60% underground and 40% surface), complex and unusual geology ... these are some of the obstacles which our competitors battled with before Per Johansson and his team decided to take up the challenge. To convince Mandalay Resource Corporation, they proposed a made to measure technical services package. Emulsion pumping technology adapted to difficult conditions, adaptation and optimisation of transport vehicles and design and manufacture of special equipment are examples of the solutions introduced by the engineers with their various talents.

#### INDEPENDENT DEVELOPMENT

For several years, EPC Sverige has been developing specific technology for the automatic loading of bulk emulsions into the mining gallery. This pumping technology enables a very precise horizontal dosage of emulsion to be

**Using our technology to increase productivity and safety even further for our customers**



→ The Expertir program is adapted for plans for raise blastings.

delivered to the holes. But it goes further in offering the possibility of loading holes which rise more than 30m, in a totally automated way, which can be directed remotely from the ground. The path of the rising holes was even the subject of an unpublished study into measuring techniques, aimed at optimising blasting plans. That's the strength of

EPC; not content with providing explosives but also proposing complete solutions to the customer, taking into account the blasting plan in its entirety, from conception to operation. ●

## TECHNO / Underground bulk

### Innovation SPUR - smart and tough

Conceived by EPC Innovation, SPUR is a bulk emulsion pumping and sensitising device with multiple applications.



→ As it is so compact, SPUR can be transported on different types of vehicle.

'Smart Process for Underground Repumping': five words which are the result of hundreds of hours of development ... this is a specially adapted solution for problems encountered in underground mining and tunnelling. Please welcome SPUR. Worthy successor to MORSE, it is effective in both tunnelling and underground mining.

#### COMPACT AND MODULAR

SPUR is first and foremost highly flexible. This is an advantage both in charging

**SPUR, concentrated efficiency from EPC Innovation**

blasts for gallery development work and in blasting product. Equipped with special modules, SPUR makes it possible to load both horizontal gallery holes and vertical shafts. A result of its modularity is markedly reduced interference, which makes this innovative device compatible with many different types of transport. Still on the lines of flexibility, SPUR's capacity ranges from 500 to 3,000kg, while its pumping output ranges from 15 to 80kg/min! To control all this with precision, SPUR has an interactive

touch screen which, like the rest of its equipment, has been selected for its extreme robustness.

#### OPTIMUM BLAST EFFICIENCY

The emulsion developed by EPC Innovation for the underground mining market is a mono-reactive matrix which is classified for transport. The explosive obtained by sensitising the matrix is Euroblendex ST. It has a CE certificate. It produces optimum blast efficiency by enabling the charging of mine holes from 35 mm in diameter. All this, as well as reducing its environmental impact! Bravo SPUR! ●

## EPC in the midst of Ebola : the dialogue to counteract the epidemic

Confronted with the most devastating epidemic of Ebola that Africa has ever known, EPC and its subsidiaries based in Guinea have had to deal with a form of danger for which no-one had ever been prepared. Focus looks at this extraordinary situation.



→ Hygiene measures put in place also helped to avoid the incidence of chronic illnesses such as cholera.

Identified for the first time in the 1970s in Central Africa, the Ebola virus reappeared at the end of 2013 in a village in south-east Guinea, before spreading to Liberia and Sierra Leone. EPC has had been present in Guinea since 1957, when it was with the Pechiney group, before the creation of EPC Guinea in 1991. Its subsidiaries NITROKEMINE and NITROKEMFOR operate at the bauxite mine in Sangaredi which is about 300km north-east of the capital Conakry, where EPC Guinea has now set up its sales offices and warehouse. With 113 men at the first site and about 20 at the second respectively, plus the guards, there are

more than 150 EPC staff in Guinea. What was the reaction, on hearing the announcement of the epidemic? What measures were taken? What were the results? Guillaume Dequaie, Manager of Mining and Blasting Operations at the site, and Olivier Vandennabelle, Director, Africa and Middle East, address these questions.

### COMMUNICATION AND AWARENESS

The virus was not formally identified until the end of March 2014. However, the announcement did not come as a surprise. For several weeks Guillaume and Olivier had heard talk of an illness whose symptoms were clearly those of a haemorrhagic fever. As soon as the epidemic was announced, the two men, with the help of other colleagues, decided to make dialogue a priority. They asked local managers to relay the information to all employees and their next of kin (more than 600 people). 'The language, the way of life, the local beliefs ... these barriers were as difficult to overcome as the message of awareness that had to be conveyed. Thanks to the method of relaying information, it was possible to reach people in a strong and appropriate way, and adapt our discourse accordingly throughout the crisis', explains Olivier. It was necessary first to find out about the illness, explain the symptoms and ways of combating it. Illustrated brochures, translated into different dialects, were handed out to staff; Health and Safety meetings were held every Tuesday; the bulletin published by the French Ambassador on the progress of the outbreak was displayed ... faced with the virus, transparency was essential. As Guillaume recalls, 'I explained many times that we had to be like the virus: one person

talks about it to two others, two people go and talk to four more and so on'. Employees were asked to limit their movements, to ask families not to visit, not to go to burials or to the house of the healer... common-sense recommendations which were not always easy to accept!

### 100% VIGILANCE

Regularly, Guillaume and his team followed the progress of the illness. The mining site had the advantage of being located in a cul-de-sac in an isolated area. During the month of June 2015, some cases were confirmed 60km away. Measures had been in place for a long time. EPC was the first to react, followed soon after by its customers. In the four corners of the mine barrels of chlorinated water were placed for people to wash their hands as soon as they entered that area. Temperatures were taken routinely whenever anyone entered the site. Physical contact was forbidden. In the offices at Conakry, which was affected by the virus, the procession of couriers was followed by the beep of thermoflashes. Chlorinated soap was distributed regularly to the staff, schools and religious places... With the help of Médecins Sans Frontières, EPC even acquired an isolation centre equipped with all the material a doctor would need if called in an emergency. Very fortunately, this has not yet been needed.

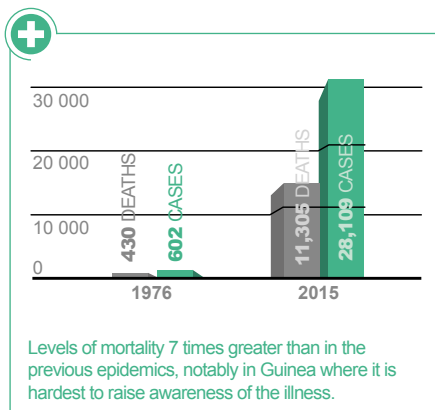
### ZERO CONTAMINATION, AND ACTIVITY MAINTAINED

No members of staff of EPC in Guinea were contaminated by Ebola. Nor were any of their close relations. Today, everyone has learned to live with the threat of the illness. The rules of good practice and common sense continue to yield fruit. However, coping on a daily basis has not always been easy. 'At the start of the crisis, flights were stopped. Even the boats of bauxite and ammonium nitrate did not want to come. We had to exist in a state of self-sufficiency for several weeks', says Guillaume. Once this phase had passed, the mine did not experience any reduction in production, and continued to produce its annual 16 million tonnes of output. With ambitions for 21 million tonnes in 2018. The goals remain high, as is the level of vigilance in the face of Ebola. After a period of calm, four new cases have just been confirmed in Conakry'. •

**Without the  
Esprit d'Équipe  
ambassadors,  
there would not  
have been  
the same  
awareness.**



→ Weekly Health and Safety meeting.



**534 deaths**  
in the epidemics of 1975 and 1995  
**11,298 deaths**  
in the course of the current epidemic  
**133 colleagues of EPC**  
in Guinea  
**0 cases**  
in EPC



## Explosion of knowledge in Africa and the Middle East

It's a major landmark in approaches to training. Olivier Vandenabelle and Éric Coussart are developing a mobile training unit in Africa/Middle East, aimed at a wide audience.

### FROM EPC TECHNICIANS TO POLICE OFFICERS

EPC has for many years been delivering training in Africa. Four years ago, Olivier Vandenabelle, Director of Africa and the Middle East, set up training courses for blasters with annual refresher courses. But the needs of the Groupe and its African subsidiaries meant that a new initiative was needed. Following the retirement of Louis Samiez, who had been the trainer for Africa, Olivier approached Eric Coussart, Production Manager for EPC's UMFES (Mobile Emulsion Manufacturing Units). Eric knew all about training as he had delivered courses for the Certificate of Competence in Blasting since 2011. He took up the reins in April 2015, attracted by the international scope of the project. 'I set up all sorts of courses tailored to

the customer's needs or the needs of the local administration', Eric explains. The mobile training unit is not aimed just at EPC explosives technicians. As well as courses in Blasting Competence and refresher courses, there will be training to test knowledge and use of explosives for external administrative staff, customers, subsidiaries and representatives of government bodies.

### A valuable technical and commercial support

means additional technical support'. Éric oversees the delivery of courses himself. He leaves his office in Saint-Martin-de-Crau about 15 days a month to travel to Africa - Morocco, Guinea, Senegal,

### A MODEL OF TRAINING

Éric Coussart is pleased with the project: 'Improving our knowledge and skills increases customer satisfaction because it



→ EPC technicians, administrative agents, internal security representatives, mine owners... the center is open to a wide range of professionals.

Ivory Coast, Cameroon, Congo, Gabon, Niger, Mauritius... a long list of countries are involved. And it's likely to grow. The courses themselves are expanding, with topics such as Vibrations, Drilling, UMF Operator soon to be added. There are plans for setting up a Diploma in Mining - and plans for the creation of a permanent training centre! ●



→ HSE awareness at the Ras Al Khaimah site.

## Health Safety and Environment awareness at AREX

Training which began at AREX in September 2014 is continuing. The aim remains the same: to raise awareness of Health, Safety and Environment issues for staff in the United Arab Emirates.

AREX (Arabian Explosives) is tackling a growing demand in the world of industrial

explosives for awareness training, as part of the quality demanded by our customers in the spheres of civil engineering, mining and quarrying. In a joint enterprise between Easa Saleh Al Gurg and EPC, our teams are receiving awareness training in Health, Safety and the Environment.

### VISIBLE CHANGES

Training is delivered by the Institute of Quarrying & Mineral Products Qualification Council (IQ & MPQC), and covers the complete range of Health, Safety and Environment issues. It is adapted to the specific needs of AREX, with interactive exercises designed to increase staff engagement. Paul Clark, Managing Director of Arabian Explosives Company LLC sees the course as 'fundamental to

the training and development of our staff'. He adds: 'It helps bring about a change in attitude and culture which is already perceptible'.

### PRIME INITIATIVE TRAINING SESSIONS

Following the success of three half-day sessions in 2014, six more half-day training sessions took place in 2015 as part of the recently launched PRIME initiative (Professional Recognition In Mineral Extractive Industries). As well as being of practical benefit, the sessions demonstrate AREX's support for the project. Four students who completed the training also took part in the Qualification Level 3 Award organised by the Institute of Quarrying. ●

## EPC Démolition at Peugeot

The French car manufacturer approached our Demolition branch prior to the modernisation of its factory in Aulnay-sous-Bois. The demolition was carried out in spring 2015 and involved all sections of the Demolition branch.

**137 000** square  
metres of buildings  
**37 hectares**  
**11 months** of work  
**€8,000,000** of turnover



→ EPC Demolition's subsidiaries united in a huge demolition site.

Some demolition sites are more impressive than others. That's the case with this one. All sections of EPC Demolition combined their skills and expertise to demolish 137,000 square metres of buildings and dispose of the thousands of tonnes of waste generated as a result.

### MULTIPLE SKILLS, ONE DIALOGUE

The strength of EPC Demolition is in its capacity to overcome all the challenges of the job. This is what attracted the builder at Sochaux. All our operations involved in demolition, asbestos removal and waste recycling were mobilised - ATD, OCCAMAT, SIGENCI, OCCAMIANTE. 'At its peak, up to 80 colleagues were working on the job', recalls Olivier Ryckebusch, Managing Director of OCCAMAT. The project team who orchestrated this extraordinary operation

consisted of Romain Chanal, Jean-Michel Blanchard, Anthony Meuret, Jimmy Loncle and Alexandre Cornet.

### ASSESSING AND SORTING WASTE

It is hardly surprising that considerable resources were involved in asbestos removal from this factory which was built in the 1970s. Building AN02, which alone measured 120,000 square metres, took the lion's share of resources! No less than 20,000 square metres of glass had to be removed by hand. Add to that 60,000 square metres of waterproofing, including 30,000 square metres of cement-fibre cladding, ie. a total of 300 tonnes of asbestos waste that came from

**The capacity  
to mobilise  
all our teams  
on a major  
industrial  
site**

15 different materials. The demolition of the Aulnay factory also generated 14,000 tonnes of ironwork (steel and non-ferrous



→ EPC Demolition rises to the challenge, both technical and human.

Distribution of waste:



metal) of which 60% was chopped up on site enabling it to be delivered directly to the foundries. Reinforced concrete was treated in the same way, with 100,000 tonnes crushed on site after removal of flooring and infrastructure. As the waste was being removed, 15 mechanical diggers were deployed to back-fill and flatten the trenches that had been dug. A major site cleared within schedule, which is now the pride of the many people who contributed to getting it done ! •



## The challenge of asbestos

Since the law forbidding the use of asbestos in 1997, regulations for its removal have become tougher and tougher. Our Demolition branch has turned these constraints into opportunities, as they place themselves at the forefront of this potentially fruitful market.

### DEMANDING SPECIFICATIONS

Isolating decontamination zones, air cleansing, decontamination of air and water residue, thorough monitoring of men and equipment, current obligations, H24 surveillance ... you could imagine you were in a zone affected by nuclear or bacteriological fallout. However this is a job for BTP! A job that is familiar

### BTP job resembles nuclear clear-up

to the six divisions of EPC Demolition. Governed by strictly regulated operating methods, they are today recognised for their expertise and their ability to carry out operations of ever increasing complexity. 'The first issue with asbestos removal is protecting our staff and the surrounding population. That involves being aware of the amount of asbestos fibre dust in the air. That's THE greatest difficulty', explains Claude Chéné, of EPC Demolition.

### MARKET OF THE FUTURE

Asbestos fibre was widely used in the building sector during the twentieth century on account of its many technical properties and low cost. When it was outlawed, the quantity of MCA (Material Containing Asbestos) was estimated in tens of millions of tonnes! According to the 2014 report of the Council for Public Health, the removal



### SIGENCI

Working with our Demolition branch since February 2014, this specialist in on-site treatment of asbestos strengthens our position in the domestic market, notably in Lyon and Lens.




→ Rigour, precision, technical mastery ... the expertise of the Demolition division is plain to see in asbestos removal operations.

**350** sites per year  
nearly **200** employees  
and **30 million** euros of annual turnover for asbestos removal

of these materials will have to be carried out over several decades, at the rate of around 150,000 tonnes per year. •



### ACTU / Sharing

## EPC Demolition - technical study days

The idea was born in 2014 during a management meeting. It became a reality several months ago. The first round of technical study days took place in Chartres on 24 September 2015 for On-site Asbestos Treatment, and on 8 October for Demolition

Operations. Nearly 40 people took part, almost all of them operational staff. Each event was organised around presentations of notable sites, given by the teams heading the projects. These were followed by question and answer sessions and workshops sharing good practice, with a view to standardising this within the Groupe. The study days are very helpful in fostering the positive attitude and cohesion which are dear to EPC Demolition. The study days are continuing in 2016, and we look forward to welcoming you! •





## ACTU / Markets

### Nickel contract in New Caledonia

Vale, the second largest producer of nickel in the world, have signed a three-year contract with EPC France for a mining and blasting project at the Goro mine in New Caledonia. This order will use the latest UMFE (Mobile Manufacturing Unit) technology, based on the 'Multi-Energy' process. This innovative concept, which EPC has signed up to, allows the

quantity and density of explosives manufactured on site to be modified in real time according to the type of rock and the needs of the customer. Its aim: to improve the quality of rock mined and therefore the global productivity of the mine. This technology also overcomes problems of logistics (transport and storage of hazardous materials). ●



## MÉTIER / Logistics

### A well-connected activity

**You could think of it as a support function. But logistics within EPC Groupe is now much more than that. It's an activity in its own right. Darrell Howard would be the first to agree.**



→ Our lorries set out from three bases: Saint-Martin-de-Crau, Bramble Island and Pittsburgh

As Head of the Supply Chain of the EPC Groupe, Darrell is in charge of a team of 35 people based in several different countries ... not to mention the drivers! These drivers alone cover more than 1.5 million kilometres each year to deliver explosives and equipment to the different sites where EPC is working. But that's not all. As Darrell likes to remind us, 'As well as our logistics activities in the EPC Groupe, we also sell our services to third party organisations'. The Logistics branch sub-contracts nearly four million kilometres per year to several European partners who are actively involved in this thriving activity.

#### A COMPLETE PACKAGE

The Logistics service offered by EPC takes charge of all aspects of the supply chain : administration, customers procedures, road transport, shipping and air freight - each stage in the process is managed according to EPC's tried and tested formula. And what about storage ? 'It is at

the heart of the job done by EPC', replies Darrell. In total, nearly 4,300 tonnes of explosives are stocked in secure warehouses in France, England, Italy, Ireland and Sweden.

#### Logistics at EPC, a tried and tested formula

#### HIGH LEVEL LOGISTICS

Whilst the Logistics activity of many of our competitors can be summed up by an office and a telephone, EPC's is based in an operational environment in a highly demanding sector. Darrell's team has vehicles at its disposal of course, but also manufacturing installations, chemists and engineers who are experienced in the transport and handling of hazardous materials. This is a crucial point which can tip the scales in our favour with customers with complex projects. Defence manufacturers, demilitarisation operations, petroleum extraction companies ... they have all found someone they can talk to! Recently, EPC-Logistics were awarded a contract to transport Class I product from Canada to the

Sultanate of Oman. The project had been stalled for several months because of unsuccessful attempts by other companies to carry out the order. Our Logistics branch used its experience and its network of collaborators across the globe to carry out the job. It was a great success. ●



#### EPC transports Logistics to the United States

In 2015 EPC Logistics opened a new office in America. Based in Pittsburgh, it is one more challenge for us, as well as an opportunity to reach out even further for our customers.



→ RJ Stout, Commercial Manager & Danelle Tanner, Operations Manager



## **PORTRAIT** / Amélie Roland

### Safety Ambassador

Amélie Roland has been responsible for Quality and Safety in the Continental Europe zone since last June. She is good natured and very keen on good practice! We meet this young woman aged 29 who has landed in the world of explosives.

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**Rather than a man's job, explosives is a job for enthusiasts**



→ Amélie Roland, Health, Safety and Environment Representative, Continental Europe

#### Why explosives?

It's a world I've known since childhood. My Dad set up the companies EPC Belgium and DGOM3. I always wanted to get into that world. After gaining my degree in Engineering Management, I worked at CapGemini and ING, then went to EPC Belgium.

#### When did safety become part of your job role?

Three years ago I was offered the role of Safety Advisor at ADR. I suddenly became passionate about this aspect of the job. I decided to get more training in this area, in particular training for Prevention Advisor Level 2. I was appointed Head of Quality and Safety for EPC Belgium when I joined the management team.

#### What is going to change with the Continental Europe zone?

Obviously I'm going to have to travel more to visit the subsidiaries. It's a job that involves coordinating and bringing together different countries. The aim is to draw attention to

hazardous situations and best practice to adopt, and to disseminate information throughout the European zone. A transparent approach is required.

#### For example?

Last year, we had a hazardous situation at an installation in EPC Belgium. So I sent out a Safety Warning to the Groupe. After validating the different actions carried out, I sent the Safety Warning to different subsidiaries, drawing their attention to the problem and the recommended changes to be carried out so that other people would not be faced with the same situation.

#### How do you think people perceive you?

Not as a controller I hope ! My role is above all one of exchanging ideas with other people and identifying what can be done to help our subsidiaries. Since my arrival, I notice that the groupe has made a greater effort to create a strong feeling of togetherness with regard to safety.

#### What do you like most about your job?

Getting out and about ! I like to discuss with other people ways of improving their working conditions, and what they think of our actions... It's pleasant to work in a climate of confidence. Thanks to my new functions, I will be able to visit all the business in the zone. I like to see how the other subsidiaries function and draw on the strengths of each for the benefit of us all. •

## **PORTRAIT** / Ricardo Chavez

### Explosives under control

Ricardo Chavez was until recently Technical Director of EPC France. On 1<sup>st</sup> October 2015 he was appointed Groupe Technical Manager. He reflects on his career path, his new role and what it involves.

#### What is your connection with explosives?

After studying Engineering at the Academy of Mines in Freiberg, Germany, I gained a doctorate in Underground Exploitation at the School of Mines in Paris. The main subject of my thesis was the development of a system for measuring fragmentation after blasts in different quarrying and mining sites. In 1996, I returned to Nitro-Bickford, the French subsidiary of EPC Group, as an engineer in the Technical Department.

#### What is your new job role?

It's a new post that will cover a broader range of activities. One of the challenges will be to draw on experience and expertise across the EPC Groupe. I am thinking, for example, of underground mining in France and Sweden,

our drilling and blasting services in England and Belgium, and our teams in deep mining and open cast mining in Guinea ... everything that makes up the richness of EPC's services must be disseminated and shared amongst the Groupe.

#### How will that come about in concrete terms?

I have already organised exchanges with the subsidiaries. The new element will consist in encouraging collaboration between technical managers in different subsidiaries, in order to carry out projects in development and produce new technologies in mining engineering. The high technicity of our explosives and the uses to which they are put constitute a real added value offered by EPC. This is what gives us the edge on our competitors and in the eyes of our customers!

#### What do you like best about your job?

There is contact with a wide variety of people. Their ways of working are sometimes different depending on the country but that is what makes the job so satisfying! I also enjoy the constant comings and goings between the site and the drawing board: I like to be able to say that the tools of engineering we have at our disposal have been developed by and for our teams to use!

#### Do you have a story about your life in EPC?

When I joined the Groupe, René Puntous, my

Technical Manager at the time, always used to say to me, 'Without controls, explosives are nothing'. Today I am still aware of that joint effort to continually improve that control. It's very motivating. •

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**We improve EPC's technical services by maximising the effectiveness of our products.**



→ Ricardo Chavez, Group Technical Manager, EPC



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