

150th Anniversary Supplement

SIR ROBERT M^CALPINE



NEVER IN ITS 150 YEARS HAS THERE BEEN A BETTER TIME TO BE A CIVIL ENGINEER AT SIR ROBERT M^CALPINE. STRONG AND FLOURISHING, THE COMPANY IS ACTIVELY BOOSTING ITS CIVIL

ENGINEERING ACTIVITY TO FURTHER ENHANCE ITS BREADTH AND RESILIENCE. A CAREFULLY CONSTRUCTED STRATEGY LOOKS SET TO OFFER OUTSTANDING PROSPECTS FOR YEARS TO COME

New Civil Engineer

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READY FOR ANYTHING



**Paul
Hamer**

Sir Robert M^cAlpine has prospered for the last 150 years and remains family owned. I have to ensure what is still a highly successful enterprise maintains and furthers that success in the years to come.

Resilience is being built through selective diversification of our revenue streams, in particular expanding back into civil engineering. We will remain focused on the sectors and markets in

which we have true core competencies. Our strategy is to go deeper into what we know.

I would like 30% of revenues to come from the public sector (hence the expansion of civil engineering capability) as this market tends to be more long term, stable and resilient. Current live examples are High Speed 2 and Highways England.

We also want a similar percentage of our revenues to be delivered through construction management, where we are working with significant clients who want an integrated delivery partner to help them shape their end products. Examples are Battersea Power Station Development Company and the US-based hospital group Cleveland Clinic.

Developing and securing key clients is a key strategic thread for the business. I want the majority of revenues to come from a select group of clients whose culture and values reflect Sir Robert M^cAlpine's own and with whom relationships are, or become, deep and durable. We plan to grow our repeat business to 70% of our workload. We're currently at 40% and well on the way to 50%-plus by next year.

The business focus is to deliver maximum value for the company's clients and in so doing, generate quality earnings to further strengthen the balance sheet. We are not driven by top line growth, but by the quality of the clients that we work for.

Our ambition is to be seen as the strongest, most resilient privately-owned business in the market.

● *Paul Hamer is Sir Robert M^cAlpine's chief executive officer. He is a highly skilled business leader with a fine track record, who joined the company in early summer 2017. He is charged with creating a forward strategy which provides resilience, protection from Brexit and focus on key clients in chosen markets.*

Sir Robert M^cAlpine's new civil engineering business unit is building on traditional values to become a future proofed force in UK construction. Managing director **Tony Gates** narrates the story to Ty Byrd.



**Tony
Gates**

THE STRATEGY

Sir Robert M^cAlpine spent the first 100 of its 150 successful years in business engaging with steel and concrete in a big way. Public works were its calling. Later the family owned company added building for private clients to its civil engineering capability. Right now, the emphasis is changing.

"You could say we're revisiting our roots," says Sir Robert M^cAlpine Civil Engineering managing director Tony Gates, referring to a corporate decision in 2016 to grow the civils side of the business as a separate unit. The current split of work substantially favours building.

"As a company we have a strategic aim to be more resilient and we believe this will come from a more balanced mix of building and civil engineering, a better blend of private and public sector work."

A high level of resilience is likely to become ever more important in future, not least as a key differentiator between companies. "It's something we must clearly be able to demonstrate to clients who are increasingly asking themselves 'are they going to be here in three or five or 10 years' time?'" Gates says.

After certain high profile receiverships, there is an issue of confidence he believes. There is also the fact that enhanced resilience will be helpful when the next recession occurs,



which it inevitably will, at some time in the future.

That said, Sir Robert M^cAlpine – which is still family owned – is in the enviable corporate position of having no debt and a modern minded executive board. “The M^cAlpine family is showing great foresight in investing in civil engineering; our chief executive Paul Hamer has been brilliant in establishing the business plan.”

Above all, Hamer provides clarity of purpose, Gates says. “We know where we’re going in civil engineering and it’s to a good place.”

KNOWLEDGE BASE

Civil engineering competency has never left the company, and has always remained at its core. Civils activity has been

“We know where we’re going in civil engineering and it’s to a good place

Rail, road and complex buildings exemplify Sir Robert M^cAlpine’s renewed emphasis on civil engineering.
Top: HS2;
Bottom left: A19 carriageway

relatively small scale in recent times, however, with a real expertise having developed in complex foundations and basements under buildings.

So it made good sense – in seeking to boost resilience – to create a new business stream by growing the company’s inherent ability to civil engineer. The main board decreed that a distinct business unit would be created, sufficient investment made and the right person appointed to drive the venture forward.

“The opportunity was attractive to me, firstly because growing businesses is what I do, in the past for Tarmac, Carillion and Balfour Beatty,” says Gates. “Beyond this was the Sir Robert M^cAlpine brand, the company’s extraordinary culture and its reputation.”

Gates was appointed two and a half years ago. Since then a highly focused strategy has been put in place: “I can describe this to you in one sentence: to grow long term businesses and long term relationships with target clients who themselves have long term predictable spending plans.”

A UNIQUE PROPOSITION

The civil engineering business reflects traditional



Alison Cox

Engineering and technical services director Alison Cox spoke at the 2019 Women in Construction Summit on “150 years of progress: why Sir Robert M^cAlpine won’t stop”. Cox is well qualified to talk about the times

ahead. She joined the company after graduating from Oxford, is an ICE Fellow and has managed huge projects including Bloomberg London and Battersea Phase 3a. A people-focused leader, here she provides insights to the future of civil engineering.

- With modular construction, fabrication offsite, digitisation, artificial intelligence and mechanisation on site there is every reason to think our jobs are going to change. My advice is to upskill yourself through a full range of methods not just courses; constantly have an inquiring mind; work out what job opportunities you can pursue or what projects you can be put on in order to learn and constantly develop. Civil engineering knowledge is fantastic, for everything we have to deliver. I commend the ICE process for the good habits it teaches, particularly regarding continuing professional development.

- We must prepare for changes to traditional construction models. Where clients define entire life cycle outcomes – from design through to end of life – they will need our input not just through the construction phase but from end to end. Conception to completion of use. I liken this to the aircraft industry where jet engines are no longer bought, the operators pay for hours of flying time, with their capital costs and operational expenditure all rolled into one. I think we could see infrastructure going this way, the process driving the right behaviours, and more innovation.

- We will see a reduction in low skill jobs as we automate more, meaning the workforce of the future needs to be digitally aware. But how relevant are current school curricula? One far-sighted school in west London is working hard with local employers to equip its students with digital skills. Many of the parents work manually and there is an appreciation that

MOVING WITH THE TIMES



Battersea Power Station Phase 3a

preparing their children to do the same will not provide good outcomes. That is a commendable model for us: digital and data awareness will be relevant to any direction our industry takes.

- So get ready for momentum building towards digitisation. Already there is a move to such things as digital “fly throughs” for induction videos. You enhance the BIM model to show where the site compound is, the fire points and muster points, so that before the workforce has even taken a step on site, it can walk through it digitally, with that initial safety risk of unfamiliarity removed.

- We are making progress as our BIM digital teams and works managers spark ideas off each other. At Battersea Phase 3a we have been developing digitally-based means of evaluating proposed activity for safety and practicality. People can see on screen what is to be done, and how, and have the opportunity to comment “that doesn’t work for me” so the proposal can be tweaked. We are also digitally tracking the manufacture and delivery of components – in this case, bathroom pods from Italy – to where and when these are to be installed, enabling real time decision making with proper information.

- Employers will become more concerned

about attracting and retaining good employees – to everybody’s benefit. Times were when you were told on Friday, “off you go to Torness, you’re there Monday for the next four years”. This kind of attitude no longer prevails. We have looked after our employees exceedingly well for 150 years and we are responding to the way people want to work today. There will always be a solution, for example, to geographical mobility, we just have to explore with people rather than mandating what the solution is. We have to make sure we continue to offer people an attractive company within which to work.

- Left field semi-predictions for the future? I can’t see concrete disappearing but can visualise use of plant-based materials such as bamboo, driven by sustainability. We are all learning about autonomous GPS guided plant but have you heard of 3-D printing of asphalt by drone? Or deployment of nano-robot clusters to reach places mankind cannot, which will soon be a possibility? Already in use in manufacturing are exoskeletal devices to help people carry out awkward, repetitive tasks. Apps for phones are coming to enable precision surveys, the calculation of quantities, the checking of adherence to specs. All our jobs are going to change – which brings me back to where I began: referring to the importance of CPD.



► Sir Robert M'Alpine core values, with principled business practice engendering warm and enduring commercial relationships.

"We want our proposition to be recognised as unique in civil engineering," says Gates, "where clients find us easy to do business with and supply chain partners want to engage with us."

"It's in the company's DNA to focus on clients, not just individual opportunities, and we are doing the same in

Core values traditional to Sir Robert M'Alpine will drive the new Civil Engineering business

civils. Letting clients know that our relationship is not about one-off projects but that we intend to work with them on a stream of projects."

Self delivery is a pivotal policy. Clients increasingly see value and security in their contractors having their own resources, in a market scarce of resources.

"We're talking primarily about people here, although plant and equipment will probably be part of our offer," says Gates. "Our strategic aim is to directly employ people ►

“ We bring in expertise from other parts of the business. For instance we’ve been leading on the thinking for cranes

► and we’re taking steps to ensure we have the skills to manage operatives, safely put them to work and supervise them.”

Some of the civil engineering team has moved across from other business units, along with the processes and procedures to employ direct labour. Others are being recruited. The wider company has over 300 directly employed trade operatives.

“Our policy of targeting projects and clients that have pipelines and longevity is giving us the confidence to invest in people. If we were to just go after one-off projects, it would be more difficult to build teams and grow capability.”

Investing in the right people, and then keeping them, is perhaps top of Gates’ agenda. A close account is taken of what employees think, about proposed changes within the company, for instance. A highly effective “Employee Network” has been established to act as a consultative panel, which Gates chairs (see page 7).

SUCCESS SO FAR

“In 2017 we were awarded, in joint venture with Bouygues and Volker, the contract for High Speed 2 (HS2) C1, in my opinion the iconic stretch of the high speed line, including the Colne Valley Viaduct and Chiltern tunnels,” Gates says.

“Then in 2018 we won a place on Highways England’s regional investment programme (RIP) meaning we’re part of its supply chain, on which we will do our utmost to stay and grow.”

The value of being involved with both HS2 and Highways England is immense, in terms of Sir Robert M^cAlpine Civil Engineering gaining experience, knowledge and reputation. Gates mentions the innovation occurring on HS2 as part of an international team: “The continuous tunnel boring, use of robotics to keep people away from the tunnel segments, the launch girder for the viaduct”.

Sir Robert M^cAlpine is operating there as part of a fully integrated team, not just with its JV partners but the project’s designers as well, and with the client. “That’s a new way of working for some people, a very productive way of working,” he says.

“There are many very good engineers from all three of the JV companies. We’ve got 20% of the people in the JV team so that’s creating for us a set of skills and competencies that will be useful in the future.

“Plus we bring in expertise from other parts of the business. For instance we’ve been leading on the thinking for cranes while M^cAlpine Design Group is undertaking design work on the project’s massive compounds. I think we add a good deal of value as well as offering a view of the UK market that is useful to contractors from overseas.”

With Highways England, it is still early days he says. ►



Karen Brookes

Ensuring Sir Robert M^cAlpine is the best place to work is the mission of Karen Brookes, director of people and infrastructure. Here she reveals initiatives to attract and keep good people – including the launch this autumn of SRMPulse.

What is SRMPulse and why is it necessary?

SRMPulse is our latest measure to track employee sentiment and take the pulse of the business. It’s an algorithm driven system and intuitive. Via weekly emailed brief questionnaires, it enables employees to interact (anonymously or not) with their line managers; while indicating how engaged they are with the company.

Is the data useful beyond this?

Yes. The system aggregates responses over time to produce a score out of 10; with high figures indicating best management practice which we can share, low figures showing where time needs to be spent improving managers’ performance. It gives us an understanding of what the issues are and where we should focus.

And the overarching policy into which SRMPulse fits?

The short answer to this is inclusion, maintaining an inclusive environment where people want to come and stay; where they are happy, successful and able to grow. It’s about providing the right opportunities for people to thrive.

So inclusion is important, and diversity too?

Critically so, from the perspectives of both employee and employer. We want to employ good people and then keep them! There’s an economic case for embracing everyone. Management consultant McKinsey & Co reports that for every 10% more diverse an organisation becomes, 3.5% is added to the bottom line.

Expand on inclusivity

We want the widest range of people to contribute to, and benefit from, our success, based on their capability and skills. We have “affinity networks” looking into, and championing, key topics: working families; ethnicity; socio economic factors; age; disability; LGBT+ and gender identity.

With the object of?

Creating a workplace where everyone is welcome and people realise they will be supported whatever their background; that there are no restrictions to them rising in the company other than their level of compe-

BUILDING THE TEAM



tence. We're an inclusive company that can make reasonable adjustments for people: having recognised "one size fits one".

You arrived two years ago. Was change required?

Some evolution has been necessary, carefully managed not to diminish Sir Robert M^cAlpine's much valued cultural feel. The company has a distinctiveness of character about which one has to be mindful. For example, in contemplating change, I found it best to engage with Sir Robert M^cAlpine people at every level. Hence our Employee Network chaired by civil engineering managing director Tony Gates.

Which serves what purpose?

The Employee Network acts as a consultative and advisory body. It has 15 or 16 individuals who meet monthly. They represent every area of the business, across the regions, disciplines and levels of employment. We talk about anything and everything to do with people and change. The feedback allows management to review its plans.

Moving to careers, is an individual's progression formalised?

We have a "job family framework" which lists categories of activity with competency requirements from 10, operative level, up to 1, executive level. Employees have their own development plans and regular performance reviews. The framework enables people to see where and how they might progress.

Say I wanted to go from level 5 to level 4?

You can see what the technical requirement is at the next

The company has encouraged an inclusive, motivated and ambitious workforce

level up, what the behavioural requirements are, what you need to do to progress. With your line manager you can work to ensure your training and development in the coming year is geared towards supporting you to being able to move up.

You are also responsible for employee well being?

Yes, in both physical and mental health and we've been doing some ground breaking work. We launched a video clip, "Dave's story", about an operative under intense marital pressure. His mind elsewhere, Dave transgresses site rules and gets rollocked by foreman Glenn. He walks off site to the pub and then to a railway line. The clip was shown around the business and also rolled out through interactive workshops with Dave and Glenn's conversation re-enacted by actors. The response was phenomenal. Participants in the workshops were saying: "Glenn, you can't say this; Dave, why didn't you tell him that?"

And the result?

Lots of people subsequently came forward to say they were struggling, seeking support. We launched a 24 hour help line, along with face to face counselling, relationship advice, financial and legal guidance. This year we've trained 120 mental health first aiders. Their names are listed on site and anyone can seek them out. More recently, on World Mental Health Day, we announced the addition of psychiatric services to our healthcare provision for employees.

Interview by Ty Byrd



► “We’ve just signed our first scheme contract on the regional framework for the M6 Junction 19 at Knutsford, going into detailed design right now with Amey as our JV partner and designer.”

Beyond HS2 and Highways England, negotiations are at an advanced stage with two private sector developers to provide all the infrastructure for two new small towns. “Both land owners are good examples of the clients we wish to target, having predictable plans for long term spend in the future,” comments Gates.

He will not go into details about the projects except to say each new town will provide around 2,500 homes, commercial space, surgeries, schools and the like; and that both are on a brown field sites.

“The civil engineering isn’t just about roads,” Gates says. “There are the utilities to go in, drainage, basements, support and other major works.”

FUTURE TARGETS

Having got onto the HS2 and Highways England supply chains, the business is seeking to win more work with both clients. “We’re having a close look at what’s in the pipeline for HS2, including stations and phase 2A,” Gates remarks.

Civil engineering competency has always been demonstrated even with complex structures like Wimbledon No 1 Court’s retractable roof

“Plant ownership can bring distinct advantages of safety, availability and quality – plus programme efficiency

“With Highways England, there are further schemes within the RIP framework and under \$100M which we could tackle through AmeySRM.” And there are much larger projects that will emerge as discrete opportunities such as the Lower Thames Crossing, the A66 and Manchester Northwest Quadrant.

“We would love to be involved with these but realistically would have to joint venture with other major players,” he says.

Obtaining other infrastructure clients is a priority, in principle with a culture which meshes with Sir Robert M^cAlpine’s own, where there are clear returns on offer and the opportunity for further work. Pipelines are important.

“We have a shortlist of clients we’d like to work for and



are researching opportunities with at least three of them. All will present long term possibilities.”

Could one of them be Heathrow and runway three? Gates declines to comment, other than to remark Heathrow is much more than just its third runway. “I imagine that even the relatively small development opportunities at Heathrow are massive,” he says.

Gates concedes that getting on to the Heathrow supply chain would be beneficial. That said, there are other attractive propositions the civil engineering business might want to target, organisations such as National Grid and Network Rail – both of them Early Adopters of Project 13.

“Whoever it is we want to deploy our skills and way of working to add value to customers and establish other long term relationships,” says Gates.

NEW MARKETS TO PURSUE

Negotiating the infrastructure contracts for the two new towns mentioned above represents a strategic first move towards what Gates believes will be a substantial new market: that of sustainable housing developments. “Small towns, large villages, perhaps occupying brown field sites,” he says.

“Communities with their own energy and heating, biomass

Young civil engineers have the opportunity to stretch themselves and improve their skills on a huge variety of sites, including the M74 in Glasgow (left) and Imperial War Museum (North) in Manchester (top right)

plants and sustainable drainage, reflecting the need to be far greener than developments of the past. Another factor is planning authorities increasingly asking how new developments can minimise or even reduce the strain on existing local infrastructure.”

Sustainable development involves the kind of technology-led activity that Sir Robert M^cAlpine actively wants to pursue, potentially in conjunction with sister company Renewable Energy Systems (RES), a leader in the renewable energy market.

RES is a global developer of solar and wind farms, now deeply engaged in the development of battery storage. “We’ve carried out civil engineering for RES in the past, such as foundations at wind farms.

“What we could now be discussing is of an order of magnitude much greater than our previous involvement – fully sustainable low carbon communities.”

POSSESSING PLANT

Gates returns to the subject of self delivery in the context of the civil engineering business owning and operating its own plant and equipment. Sir Robert M^cAlpine has a lot of its own plant already. ▶



► “Our shareholder is accustomed to investing in plant and we in Civil Engineering are making the case for self-delivery of work and ownership of the plant. What is clear to me is that the earlier we can get involved in projects, the more we have control of the programme, the easier it is for us to make that case.

“I believe in many instances that plant ownership can bring distinct advantages of safety, availability and quality – plus programme efficiency.”

NEW THINKING, ADDED VALUE

The technology of civil engineering is changing: earthworks machines being satellite guided; their operators further aided by autonomous controls, for instance. “Such advances will bring better safety and greater efficiency,” Gates says.

“We’re looking hard at how technology and data will

M74 viaduct launch, Glasgow

allow us to improve our business model, our position in the team, to one that adds more value.

“For instance, we should be being smarter about having more civil engineering components produced off site, with fewer operatives on site.”

Gates says that his company is intent on transferring lessons being learned about modularisation and preconstruction in vertical construction, into civil engineering. “I think we’ve only scratched the surface in what can be done with structures. I’m sure there’s a lot more we can do, for example, in prebuilding highway infrastructure.”

Logistics is another crucial area. “We build a billion pounds worth of work in central London on a single site without a huge compound. How is that done? How are the logistics handled? Honestly, it’s like air traffic control: if you’re not booked in, you can’t land.”

Sir Robert M^cAlpine’s civil engineering business needs to



“ We’re looking hard at how technology and data will allow us to improve our business model, our position in the team, to one that adds more value

Uniquely high capabilities – as demonstrated at Bloomberg in London (top left), Nissan (top right) and the Eden Project – are Sir Robert M’Alpine’s proud offer

bring that logistics experience to its sites, to tighten programmes and improve efficiency.

“Both these examples, logistics and modularisation, drive a planning and programming process that is quite different from convention but can really add value to our offer” (see box page 6).

WHY WOULDN’T YOU WANT TO WORK HERE?

“Sir Robert M’Alpine is a fantastic company to work for. People are treated more like members of a family than just employees. You’re encouraged to grasp opportunities, gain experience, develop yourself and build your career, while being secure and having fun,” Gates claims.

“There’s a real care here for people: we feel valued. Coming to this family owned company is different – not least in its continuation of traditional values and commitment to leading edge employment and technical excellence.”

Careers focus

Sir Robert M^cAlpine’s training and development policy is to encourage employees to progress as far as they can. **Ty Byrd** reports.

The level of encouragement and support given to young people progressing their careers with Sir Robert M^cAlpine is probably second to none in the industry. Chief executive Paul Hamer says: “We want it known that everyone is welcome to join us and we as a business are committed to investing in the training and development of those who do.”

Two who have joined are:

SAM PALMER

Sam qualified initially as a technician in the gas industry but wanted something more challenging – like civil engineering. He put his CV on line three years ago, it was spotted, and he joined Sir Robert M^cAlpine as a trainee site engineer.

“My first job was a huge biomass power station project,” he says. “Everybody was welcoming and looked after me. It’s a family run business and this really comes through.”

Joining in October 2016, he started college right away, one day a week. Sam is now studying for an HNC in construction



IMAGE: UNIVERSITY OF PORTSMOUTH

and the built environment at New College, Durham.

His ambition is to get into design and obtain a degree. He has worked on two projects to date and recently moved to an infrastructure project in the South.

“I’m getting brilliant experience,” he says.

MIMI-ISABELLA NWOSU

Already holding a civil engineering degree, Mimi is now studying for her Masters at Imperial College – sponsored by the business. “I’m very interested in sustainable development,” she says. “I want to gain a thorough understanding of materials properties and performance to further that interest.”

To that end, Mimi left a consultancy where she worked in highways, to join Sir Robert M^cAlpine as an assistant materials engineer in June this year. She currently works part of the week in London, the remainder of her time seconded to materials testing specialist Socotec.

“I’m very happy with the way my training is progressing – the company is really good and caring,” she says.

“Everybody seems to stay a long time.” After obtaining her Masters (in advanced materials for sustainable infrastructure), Mimi wants to become a “fully fledged chartered civil engineer” and then – perhaps – go into R&D.

“I’m very happy the way my training is progressing – the company is really good and caring. Everybody seems to stay a long time”

For civil engineering enquiries please call +44 (0) 333 566 1600

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