



"Where will our knowledge take you?"

Annual Report 2017

## BMT at a glance

Number of staff

1,497

Companies

24

Office locations

43

Countries where we are active

35

Turnover

£167m

Turnover by region



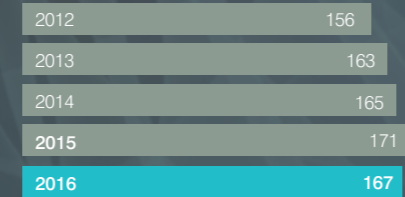
Turnover by market



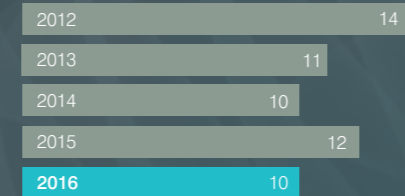
Spend on research, development and innovation

£7m

Turnover £m



Total underlying profits £m



Employee distribution £m




Links with academia

We continue to forge close links with academic institutions worldwide:


- 1 Carleton University, Memorial University of Newfoundland and the Universities of Waterloo and British Columbia in Canada
- 2 Instituto Tecnológico de Aeronáutica and Instituto Nacional de Pesquisas Espaciais in Brazil
- 3 University College London, Imperial College London, Brunel and the Universities of Bath, Cranfield, Newcastle, Portsmouth, Reading, Southampton, Strathclyde and Warwick in the UK
- 4 Technological Universitij in Delft in the Netherlands
- 5 Centre for Environmental Planning and Technology University in India
- 6 National University of Singapore
- 7 Universiti Teknologi Petronas in Malaysia
- 8 Australian National University, Curtin, Edith Cowan, Monash, Murdoch and Swinburne Universities and Universities of Adelaide, Melbourne, Queensland, Tasmania and Western Australia




Markets

Vessel Design and Performance 

Marine Surveys 


Ports and Terminals 

Oil and Gas 

Offshore Renewable Energy 

Defence 

Mining and Bulk Handling 

Buildings, Infrastructure and Rail 

Water and Environment 

Government 

## Chairman and Chief Executive's Statement

Welcome to this annual report on our activities and performance. Many of the themes that characterised the previous year continued to be felt: low oil prices, weakening demand for commodities, the knock-on effect to ports and infrastructure, fewer capital expenditure projects and a greater focus on making the most of existing assets. In this context, BMT's performance was reasonable: some sectors contracted but others demonstrated good growth, underlining once again the value of our diversity as a group across markets and regions.

As well as benefitting from our diversity, the way in which we responded in often challenging markets highlights two important themes. Firstly, it is clear that agility remains key. Our ability to transfer technology and services from a weakening market to more robust ones or from low-growth regions to better performing economies served us well. In uncertain times, our relatively small scale allows us to be nimble whilst our international reach allows us to address new markets effectively.

Secondly, innovation has a central role to play in maintaining the higher margin work we seek and that our expertise as a business deserves. This is the theme explored in this Annual Report and will remain central to our success. Innovation is key to growing our market position and margin. It also delivers on our purpose as an Employee Benefit Trust: to provide worthwhile and satisfying employment to our staff.

We have in the last year embarked upon a programme to give greater focus on our customers and to make more effective and efficient use of the talents, experience and capabilities we have in our core markets. We are already making more efficient use of resources, co-ordinating support activities in regions and putting shared processes in place. Clustering our abilities around key industries and customers is also proving a more effective route to market, allowing us to aggregate the total value of BMT across the group to present a clear and compelling story to our customers. This more customer-centric approach also gives us a more intimate understanding of customers' needs, which will drive our future innovation.



Sir John Hood  
Chairman



Peter French  
Chief Executive

## Operations overview: Market context

Geo-political factors from a slowing Asia Pacific economy to high on-going oil production from OPEC and Russia resulted in weaker demand for commodities and continuing low oil prices that set the tone for many markets.

The year saw few major capital expenditure projects in offshore oil and gas. In Australia depressed commodity prices continue to affect not just mining customers but ports and infrastructure associated with their export, with lower licence revenues from miners also impacting state and regional expenditure. The picture in India, Indonesia, Hong Kong and Singapore was more

positive as these economies look to infrastructure to grow GDP. Internationally, the oversupply of commercial shipping saw record numbers of tankers, container and bulk vessels tied up. The collapse of Hanjin Shipping dramatised the scale of these issues and sent shockwaves through industry.

## Operations overview: Performance

Our defence businesses met and in many cases exceeded forecast in our key markets of the UK, USA, Canada and Australia. Even in the continually tough UK market, all businesses reported beyond forecast. The year saw us adopting a Key Account Management approach to focus abilities from across the group more effectively on these relationships and better serve these key customers.

In oil and gas, we moved quickly to resize the business to low demand and focused on sharing resources across regions to reduce cost but maintain profitability. We also targeted markets adjacent to our core oil and gas market, finding new applications for our metocean forecasting, wind engineering and instrumentation. To compete effectively in these markets, we repurposed tools and services to deliver the cost-effective, 'lite' solutions these markets demand.

The strength of our products in flood risk and coastal management and our role in a new partnership offering turnkey solutions to offshore decommissioning helped sustain a creditable year in an otherwise weak environmental market. Rather than wait for the market to rally, we profited by actively targeting new markets and regions, focusing on growing aspects of the blue economy such as aquaculture in the Middle East.

Performance was poor in resources markets: there is strong competition for projects focused on customer priorities of optimisation and life extension. Ports, rail and infrastructure have shared a similar focus. We responded by looking to 'export' our higher value port and bulk handling knowledge to growing economies.

Our strong brand in the surveys market and our international reach through a worldwide associate network delivered a good performance. We completed a number of key projects to extend our reputation in fire investigation beyond marine incidents and gain access to this new market. In the specialist vessels market, having a wide portfolio of designs from patrol boats to coastguard vessels now in the water helped us grow our presence in these markets. This growth offset an expected decline in vessels serving the offshore oil and gas market.

Within commercial shipping, our investment in the Digital Ship met its payback milestones early as the advantages become increasingly clear in this hard-pressed market. As legislation drives more sophisticated reporting on fuel consumption and carbon emissions, the market is looking to this realtime digital monitoring service as a solution.

# Innovation

The answer to protecting margin

As scientists, technologists, engineers, consultants and programme managers, we are specialists. That deep domain expertise sees us focus on the high end of customer issues. In many markets, however, today's differentiating innovation is tomorrow's commodity.

Rather than compromise margin and buy share in these fast-commoditising markets, we stay true to our R&D roots and look to innovate, creating higher value services that sharpen our edge whilst helping customers with complex needs. Here are just three examples of how innovation targeting those complex needs helps us maintain our market position.



Birds may have inspired flight, but could they also inspire landing? We are using deep reinforcement learning to generate a perching trajectory to investigate alternatives to landing a fixed wing UAV in urban and maritime environments.



Transporting crews to offshore rigs will be safer and faster with our work integrating helideck turbulence mapping with real-time data from the rig and weather forecasting.

We are working with Australian research organisations to develop world leading transplantation and seeding methods to improve restoration of seagrass meadows.



### DEAP thinking

Offshore oil and gas operators have no shortage of data on their asset: its structural integrity, historic metocean data, environmental and weather data, operational risk and hazard information. Like so many in this age of big data, however, what they lack is a way to integrate all of that data and give them a clear and complete picture.

Taking advantage of improved computer processing and our background in data management, we created DEAP-AI (Data Exploration and Analytics Platform for Actionable Insights). It combines multiple data sets through life-of-field giving operators, engineers and contractors alike the ability to interpret data in real time or post event to better understand the operation and long-term integrity of their assets.

### Changing training

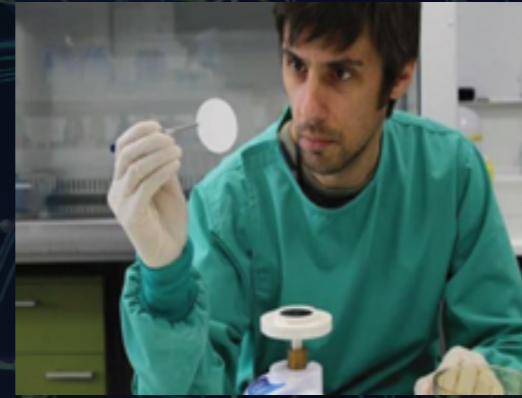
Virtual Reality has allowed for realistic, safe training for the military to become more immersive. However, the time and cost to create these training environments has often seen them lag behind operational needs and given little data on which the trainer can make meaningful assessment.

We have created Engage, a platform that fast-tracks the creation of 3D training. It allows trainers to review training in real time, even adjusting levels of difficulty during

the training to fully test an individual's ability. Engage takes the experience data collected on individuals in training and turns this into actionable reports for each trainee. Designed for a wide range of roles and environments, Engage is currently in use providing 'walk through' training for the new Queen Elizabeth Class aircraft carrier, improving the safety awareness of the crew before the ship is delivered.



We are transforming traditional surveying methods with Environmental DNA (eDNA) tools to detect marine species.



### Faster facts

How do you bring greater objectivity, easier benchmarking and faster delivery to a vessel risk survey? Working with Maersk, we have created an app-based approach to answer these needs. Using a tablet computer, MATE (Marine Application for survey, Trend Evaluation and reporting) gives ship owners (and potentially underwriters) real time

insight into a ship's condition and compares it with the quality of the rest of the world's fleet. Applying a calculation matrix to 150 predetermined points delivers consistent, objective results that are sent direct to customers, giving them the ability to take immediate action.



Working with industry partners we created the UK's first all-in-one decommissioning service.



Our Research Directorate is transforming European shipping container safety with CONTAIN surveillance system.



## Operations overview: Outlook

Committed spend on major defence projects in the US, Canada and Australia will continue to create growth opportunities. With the recent changes to the geo-political picture, the response of NATO countries to meeting the 2% of GDP defence spending target also has the potential to further boost demand for our services. In commercial shipping, however, the current over-supply and continued output from Chinese shipyards makes further consolidations amongst operators likely.

The oil industry is adjusting to a low oil price regime. As fields go offline, however, operators will face demands to build reserves and develop other fields but will look to do so at lower levels of investment.

In Australia there is cautious optimism that the bottom of the resource cycle has been reached and that commodity prices will recover, but the climb is predicted to be slow. The Government is realising the need to stimulate growth outside the resource sector and is looking to infrastructure to drive this growth. Infrastructure, including ports, will also play a continuing role in growing the GDP in countries such as India and Indonesia.

There is a growing appreciation that environmental issues are a reality that cannot be left to the next generation to address. Increasing incidents of storm, drought and flood events, together with rapid urbanisation and issues of water security, all have the potential to grow the environmental market.

## The Board

During the year, Dr Neil Cross retired as Chairman following 18 years with BMT, the last nine as our Chairman during which time the group almost doubled its turnover. Neil was replaced by our new Chairman Sir John Hood.

### Sir John Hood KNZM Chairman

Sir John joined BMT Group as Chairman in October 2015 and is a Trustee of the BMT Employee Benefit Trust. Sir John is a non-executive Director of WPP plc, President and CEO of the Robertson Foundation; and Chairman of the Rhodes Trust and of Study Group Ltd. After a successful career at industrial conglomerate Fletcher Challenge, Sir John served as Vice-Chancellor of the University of Oxford and, before that, as Vice-Chancellor of the University of Auckland. With a Bachelor of Engineering and a PhD in Civil Engineering, Sir John was a Rhodes scholar. He was appointed a Knight Companion of the New Zealand Order of Merit in 2014.

### Ian Davies Deputy Chairman

Ian is Deputy Chairman, Chairman of the Audit Committee and the BMT Employee Benefit Trust. Ian is a Fellow of the Institute of Chartered Accountants in England and Wales, and an elected Independent Council Member, and Chairman of the ICAEW Remuneration Committee. Ian is also Chairman of Fair Ways Foundation and Senior Independent Director at Harvey Nash plc. He was a Visiting Fellow of the Department of Strategy at Cranfield University School of Management and a partner at Coopers & Lybrand.

### Peter French Chief Executive

A maritime civil engineer, Peter joined BMT in 1990. He is also Chairman of the Society of Maritime Industries and of the International Transport Intermediaries Club, Vice President of the Association of Independent Research & Technology Organisations and of the European Co-operation in Maritime Research, a Director of Maritime London and a member of the Industry Advisory Board of the School of Marine Science & Technology at Newcastle University. He is a Fellow and past President of the Royal Institution of Naval Architects and a Fellow of the Royal Academy of Engineering.

### Charles Packshaw Non-executive Director

Charles is a member of the Audit, Investment and Remuneration Committees. He has 30 years' City experience working with financial institutions and was until recently Head of UK Advisory at HSBC Bank. Prior to this, he was Managing Director of Lazard's Corporate Finance Division in London. He began his career in the construction industry and is a chartered civil engineer. He is the Senior Independent Director at Diploma PLC and has recently been appointed as Chair of Prostate Cancer UK.

### David McSweeney Finance Director

David was appointed Finance Director in 2001, prior to which he was a senior audit and corporate finance partner at Baker Tilly. He is a Fellow of the Institute of Chartered Accountants in England and Wales and served as a member of the Technical and Practical Auditing Committee providing guidance to the profession. His extensive knowledge and experience of corporate finance and treasury matters has ranged from small owner managed businesses to large public listed companies in the FTSE 100 and 250 as well as on NASDAQ.

### Professor Minoo Patel Non-executive Director

Minoo is a member of the Investment Committee and a Trustee of the BMT Employee Benefit Trust. He has served on the Audit Committee and has chaired BMT's Innovation Board. Minoo is a Fellow of the Royal Academy of Engineering, Emeritus Professor of Mechanical Engineering in the School of Engineering at Cranfield University, an independent Director of Keppel Offshore & Marine Ltd, and a Director of BPP Technical Services Ltd and of BPP Cables Ltd.

### Wendy Barnes Non-Executive Director

A member of the Audit Committee and Chair of the Remuneration Committee, Wendy is also a non-executive Director with Scottish Power Energy Networks, OCS Group and the National Crime Agency. She is a Director and external advisor to Templar Executives, which provides cyber security consultancy and training. Wendy has been a Director General in the Department of Energy and Climate Change, and a non-executive director in the MOD, government security departments, Met Office and Ofwat. She is also a non-executive director of Chester Cathedral Enterprise.



1 Sir John Hood KNZM 2 Peter French  
3 David McSweeney 4 Wendy Barnes 5 Ian Davies  
6 Charles Packshaw 7 Professor Minoo Patel



## Financial review

In a year characterised by continuing tough market conditions and uncertainties such as the US election and Brexit, it proved difficult to achieve our two key targets of revenue and margin growth. Turnover fell by 2.7% with underlying profits falling by 12%. We did not manage to grow margin in this challenging climate but were able to maintain a creditable 6%, albeit helped by currency exchange gains. With current market conditions set to continue, we are shaping our business accordingly whilst still investing in the innovation that has driven so much of our historic success with initiatives such as our Digital Ship services. The year also saw us adopting FRS102 for the first time in a move to conform to international reporting standards.

### Reshaping the business

With a weak commercial shipping market and low oil prices becoming the 'new normal' we have, as noted above, reshaped the business where demand continues to be slow; this has triggered certain accelerated provisions in 2016 for costs such as property leases and severance payments.

### Currency

With over half of the group trading in non-sterling denominated currencies, previous years have seen swings of plus or minus £1-£1.5 million due to the currency fluctuations faced by many international businesses such as ours. Figures for this year, post the Brexit referendum, showed more significant exchange gains following the dramatic fall of sterling against most major currencies and, in particular, the US and

Australian dollars. This saw the business realise exchange gains of £2.5 million, with the balance sheet further boosted by £4 million by the retranslation of overseas assets into sterling.

### Cashflow

The year's positive figure for net cash generated was in part due to the realisation of fixed asset investments where those monies were not reinvested. Also influencing the cash flow position was the extension of credit to customers, particularly those in the offshore oil and gas market. Improved cash recovery will be a focus for the coming year.

### Pension liability

The year's dramatic falls in bond and gilt yields from around 4% to just 2.5% led to a doubling of the actuarial liabilities. Despite a reasonable performance by the financial markets, the increase in the pension assets was insufficient to offset the fall in discount rates.

### Employee Distribution

In the light of this year's financial performance, the Board chose not to make a distribution through the Employee Benefit Trust. Company profit related distributions were made, but dropped in line with shrinkage of the overall business from £4.2 million in the previous year to £3.8 million. We remain confident that going forward we will continue to enjoy a strong, sustainable business well-suited to address the changing market demands.

## Summary Financial Statements

### Summary group profit and loss account for the year ended 30 September 2016

	2016 £000	2015 £000
<b>Turnover</b>	<b>166,745</b>	171,442
<b>Operating costs</b>	<b>(161,623)</b>	(164,895)
<b>Operating profit</b>	<b>5,122</b>	6,547
Share of operating profits in associates	-	(232)
Fair value loss on investment properties	(250)	(100)
<b>Fixed asset investments</b>		
- Fair value gain/(loss)	210	(803)
- Income and gains	1,490	239
Net interest payable	(764)	(859)
<b>Profit before employee distributions and taxation:</b>	<b>5,808</b>	4,792
BMT employee profit sharing schemes	(3,788)	(4,653)
<b>Profit before taxation*</b>	<b>2,020</b>	139
Taxation	(2,981)	(757)
<b>Retained loss for the year</b>	<b>(961)</b>	(618)

\*Accounting standards require the performance-related bonuses to be included within operating costs for financial reporting purposes.

### Summary group balance sheet as at 30 September 2016

	2016 £000	2015 £000
Intangible assets	2,070	3,980
Tangible assets	16,780	16,749
Investments	5,552	9,683
<b>Total fixed assets</b>	<b>24,402</b>	30,412
Current assets	90,585	83,988
Creditors: amounts due within one year	(43,602)	(47,756)
<b>Net current assets</b>	<b>46,983</b>	36,232
Total assets less current liabilities	71,385	66,644
Creditors: amount due after one year	(2,942)	(3,798)
Provisions for liabilities	(1,262)	(454)
Net assets before pension liability	67,181	62,392
Pension liability	(49,896)	(23,842)
<b>Net assets after pension liability</b>	<b>17,285</b>	38,550
Profit and loss reserve	53,769	52,586
Other reserves - Pension	(41,212)	(18,989)
Other reserves - Fixed assets	4,728	4,749
Other reserves - Investment Property	-	204
<b>Total funds</b>	<b>17,285</b>	38,550

### Approved by the Board on 19 December 2016

Peter French  
Director



David McSweeney  
Director



## Notes to the Summary Financial Statements

### Group turnover

	2016 £000	2015 £000
An analysis of turnover by geographical market is given below:		
Europe	83,430	77,987
North America	29,611	30,196
Asia Pacific	36,394	35,396
Rest of the World	17,310	27,863
<b>Turnover</b>	<b>166,745</b>	171,442

### Total profit reconciliation & reserves (excluding minority interests)

	2016 £000	2015 £000
Underlying profit before the following items	10,200	11,534
Digital ship initiative	(1,376)	(1,668)
Disposal of subsidiary	-	(364)
Performance related bonuses	(3,788)	(4,253)
Group loyalty based reward	-	(400)
Goodwill amortisation/impairment	(2,425)	(1,990)
Taxation	(2,981)	(757)
Associates	-	(232)
Net interest payable less gains on investments	726	(620)
Exceptional items: restructuring costs	(2,277)	(965)
Exchange gains above the norm	1,000	-
Fair value gain/(loss) on investments	210	(803)
Fair value loss on investment properties	(250)	(100)
<b>Retained profit/(loss) for the year</b>	<b>(961)</b>	(618)
Other recognised gains and losses	(20,304)	(1,545)
Reserves brought forward	38,550	40,713
<b>Reserves carried forward</b>	<b>17,285</b>	38,550

### Staff costs

	2016 £000	2015 £000
Salaries	80,765	75,292
Social security costs	6,927	7,380
Pension and post retirement costs	7,623	6,768
<b>Staff costs</b>	<b>95,315</b>	89,440

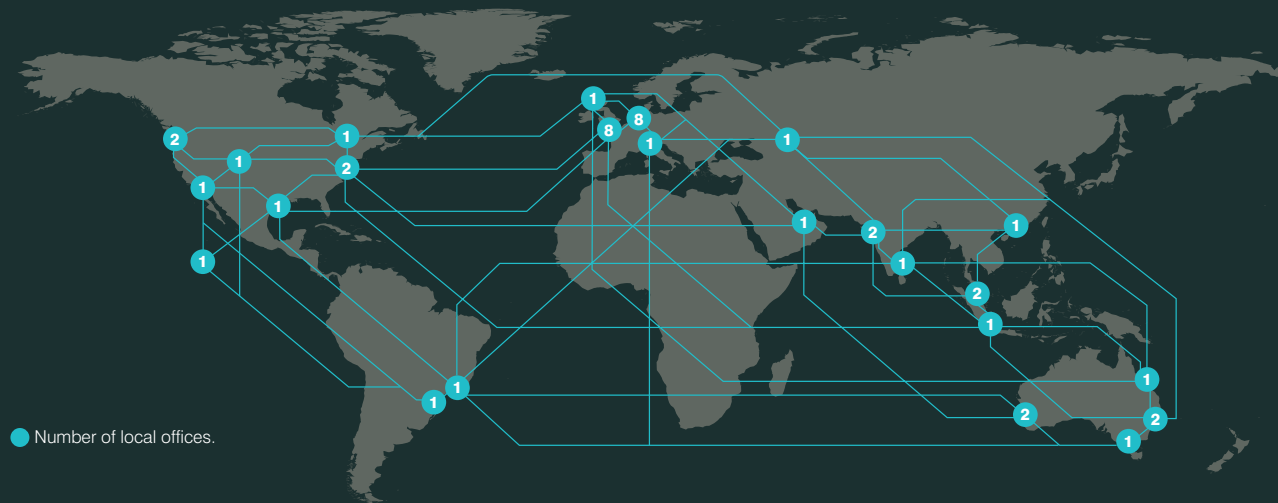
Both performance and loyalty based rewards are included in staff costs

### Employee numbers

	2016 No.	2015 No.
The average weekly number of employees during the year was made up as follows:		
Designers, engineers, scientific and other technically based fee earners	1,185	1,247
Administrative support	312	297
<b>Average number of employees</b>	<b>1,497</b>	1,544

The figures on these pages are taken from the company's full statutory accounts, which are available from the UK Registrar of Companies

BMT applies engineering, science and technology to help customers design, manage, maintain and improve their assets. Founded on a century's heritage in the marine environment, BMT is an independent organisation held in trust for its employees.



**Complexity.** Complex structures; complex environments; complex interactions; complex programmes. Much of our work involves us helping customers navigate complexity successfully and complexity is the visual theme of our Report this year. Inside, you will also find examples of how we are applying innovation to master complexity.

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