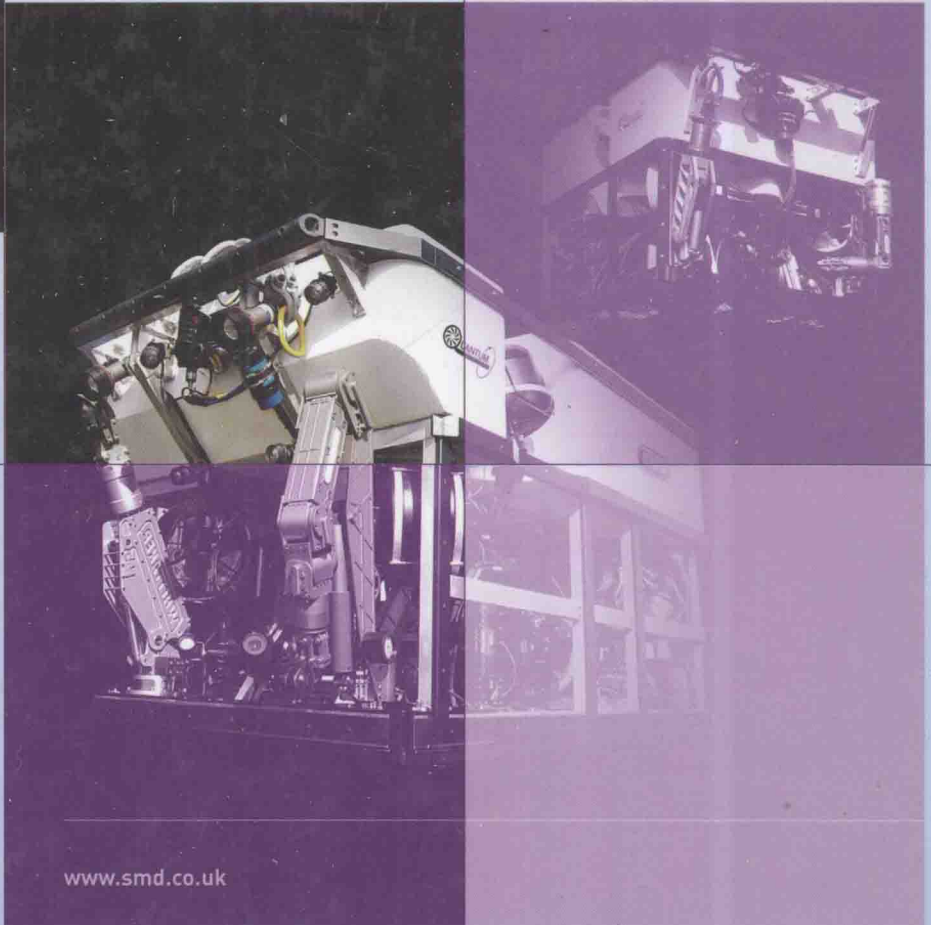


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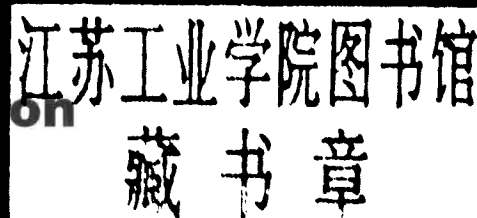




Remotely Operated Vehicles of the World

Eighth Edition

2008/9



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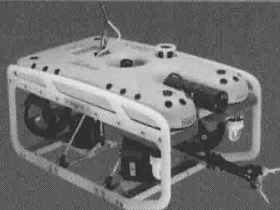
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SMD designs and manufactures a complete range of products from Work Class ROVs to specialised trenching systems including ploughs and tractors. The company also produces the Curvetech range of ROV components, including lightweight thrusters; powerpacks; pressure compensators; servo and solenoid valve packs and flexible, distributed control systems.

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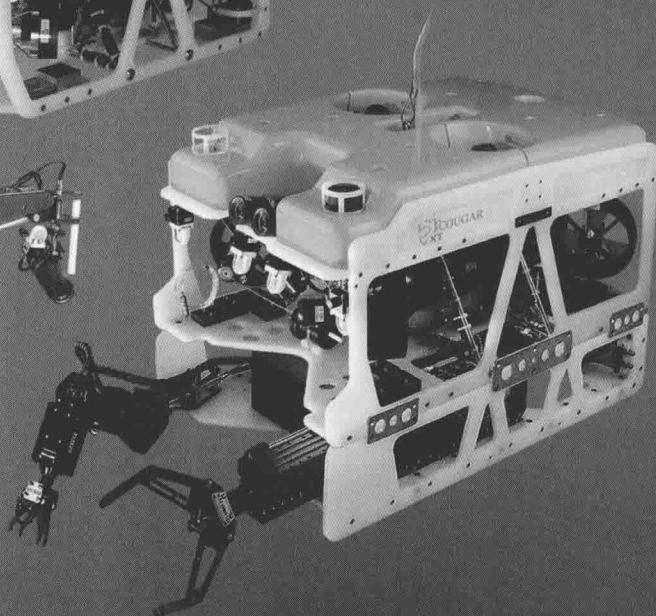
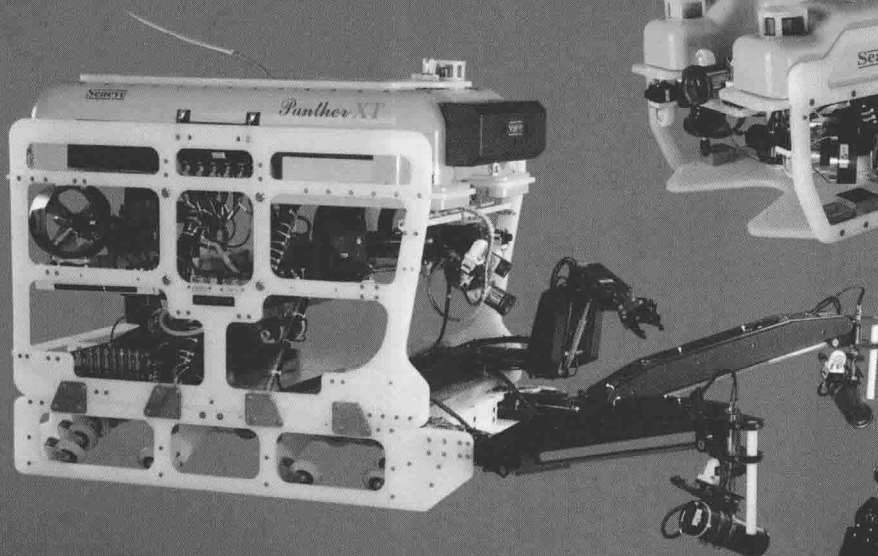
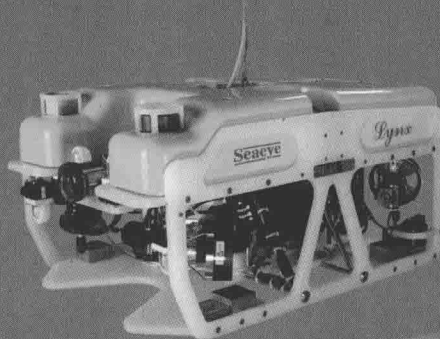
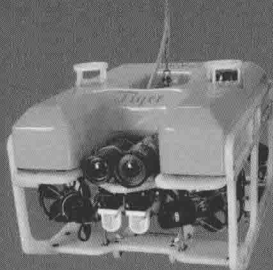
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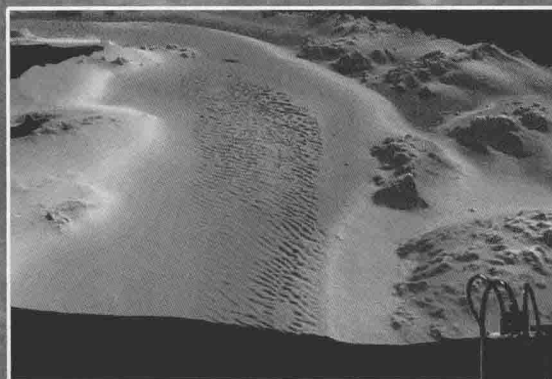


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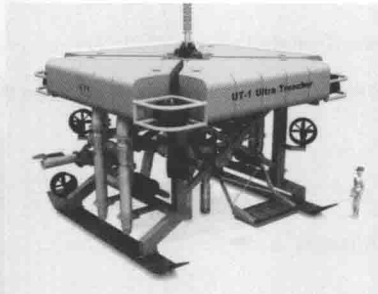


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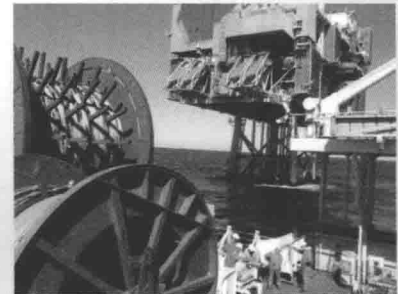


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Welcome to the Eighth edition of **Remotely Operated Vehicles of the World** - the most comprehensive and informative industry reference document available today.

As I write the commercial world is enjoying a quite unprecedented level of activity and growth driven by the continuing high price of oil. Never before have we seen such a sustained expansion of the industry as we have during the last three years. Will it last? Yes, I believe it will. The demand for hydrocarbons particularly in China, India and the developing world will keep pressure on supplies for the foreseeable future. Furthermore, future offshore oil is going to need to be recovered from increasingly deeper water and this means more technology, more advanced ROVs and AUVs and, where necessary, more advanced support vessels.

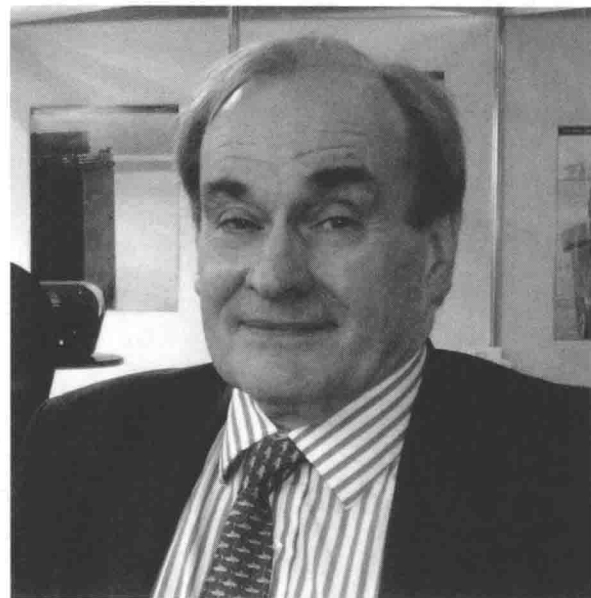
In the world today there are over 6,000 operational ROVs producing revenues for their owners of over US\$1 billion per annum. If we include the small, hand-portable ROVs for the first time in our history the overall production rate of ROVs is well over 1,000 per year. It is a similar story with AUVs, some 500 are now in military and commercial use with work for over 1,000 more identified for the next decade. The build cost for these vehicles is some US\$2 billion - an exciting prospect for all of us.

It does not appear to be universally understood, or accepted yet, that there are several areas of unrealised potential for AUVs which could substantially add to the above figure. Quite rightly their prime use is highly productive, and where possible "vessel free", survey work. The problem here, if it is a problem, is that they can be too productive for their own good - meaning that ultimately less will be required.

However, I believe that there are still many untapped opportunities for AUVs - for instance long term structural inspection of platforms, FPSOs, civil engineering infrastructure etc. They also have a big future in areas where access is difficult or impossible for vessels - under ice or in very shallow waters.

Analysts predict that the subsea market is going to triple in size every 10 years. The overall UK subsea market today is turning over US\$10 billion per annum and employs approximately 40,000 people. The world market is at least three times the size of the UK market. Forgive the cliché but the opportunities in our industry are limited only by our imagination.

On a personal note, this is the last Foreword that I will write for **Remotely Operated Vehicles of the World** as I will soon be retiring from the industry. I mention this for two reasons. Firstly, it has been a great privilege to reflect on the development of ROVs and AUVs, their technology and markets and to try to encapsulate that in each of the Forewords I have written. More importantly I am concerned that as my generation moves on there are not enough bright young engineers entering the subsea business. I urge all of you to use this edition of **Remotely Operated Vehicles of the World** to inspire young people not only to become engineers and physicists but also to excite them about our underwater world. The potential is enormous - AUVs and ROVs will be with us as long as mankind inhabits this planet. Working with them offers one of the most interesting and rewarding careers an engineer could wish for. In my view, **Remotely Operated Vehicles of the World** is more than a reference book, it has become the bible of the industry - please use it to spread our gospel!



Richard J. Marsh.

Richard J. Marsh. D.Tech., C.Eng., F.I.Mech.E., F.I.E.T.
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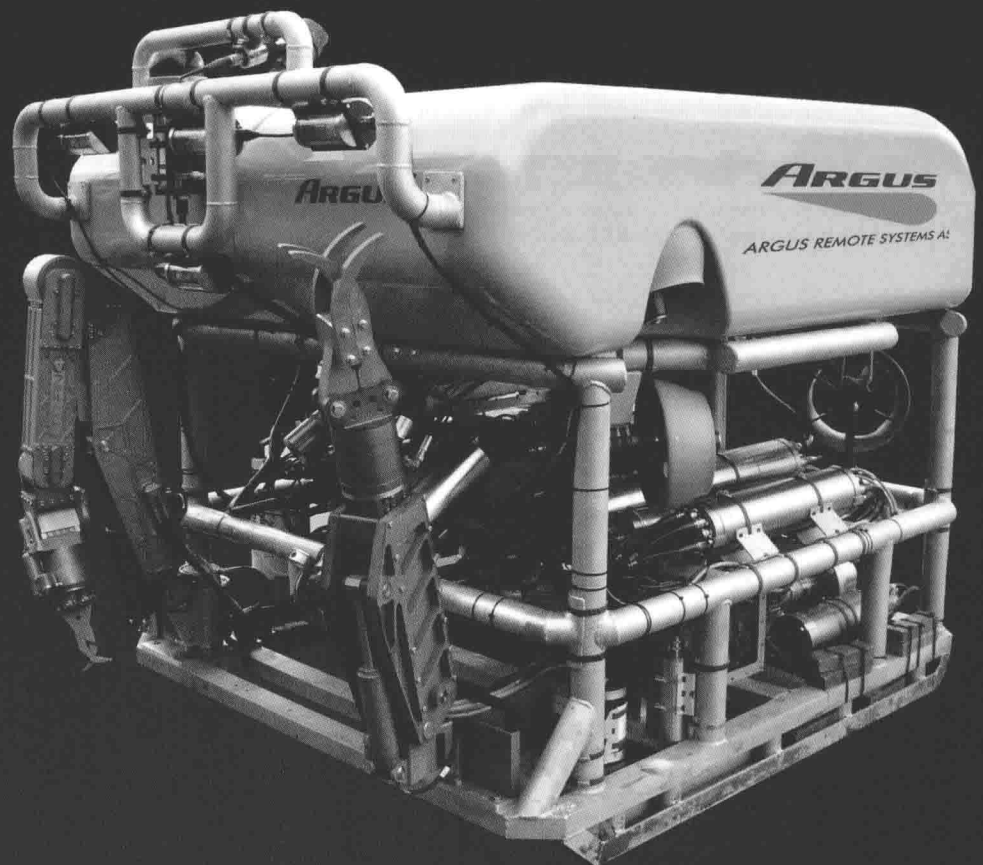
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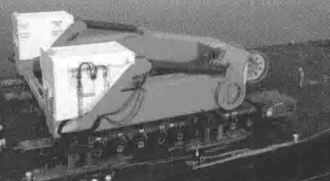
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 REMUS 6000

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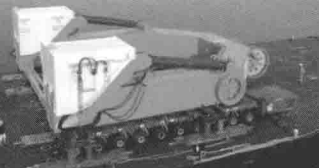
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r2D4

Tam Egg 2

Tri-Dog 1

TUNA SAND

Twin-Burger

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HUGIN 1000

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ESV 07/3 Towed Plough
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Aqua Explorer 2

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Dolphin-3K

Kaiko

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