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# Remotely Operated Vehicles of the World

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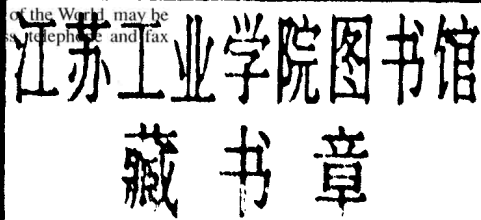
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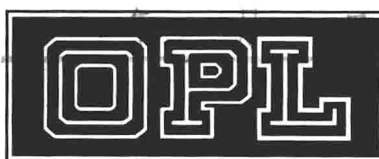


**Front Cover Illustration:**

Left hand image - The 100hp Diablo (this one supplied for Vietsovetropetrol) is a compact and powerful work class ROV powered by a Curveteck propulsion system.

Right hand image - the 1200hp Burial Tractor, the first of which is operated by Mayflower Energy, is an innovative system specially designed for the installation of short cable runs, such as the interconnecting of offshore wind turbines.

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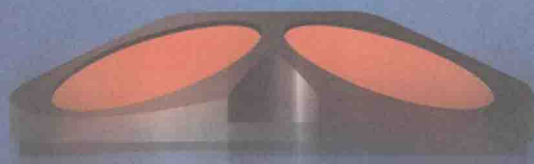


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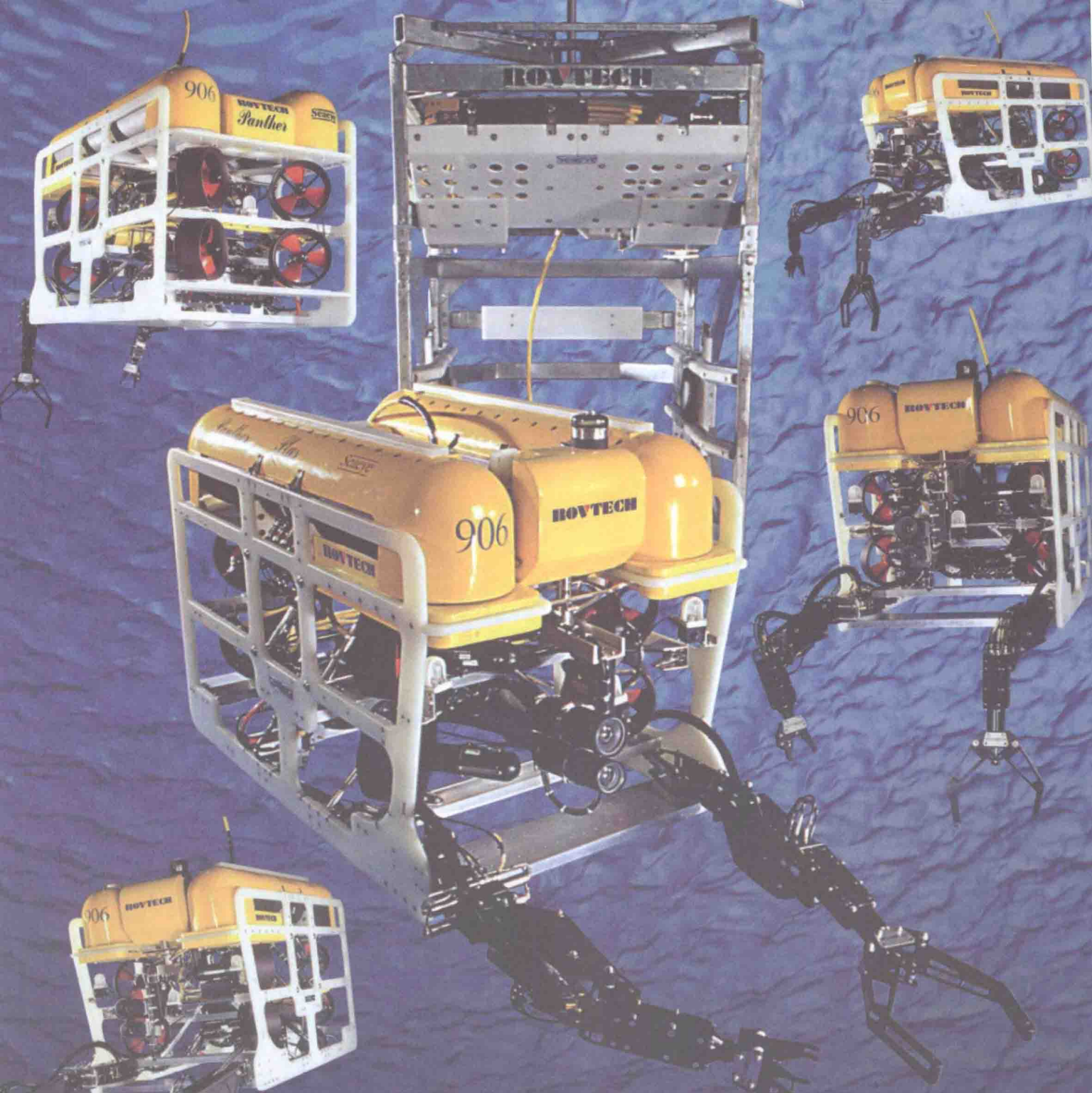
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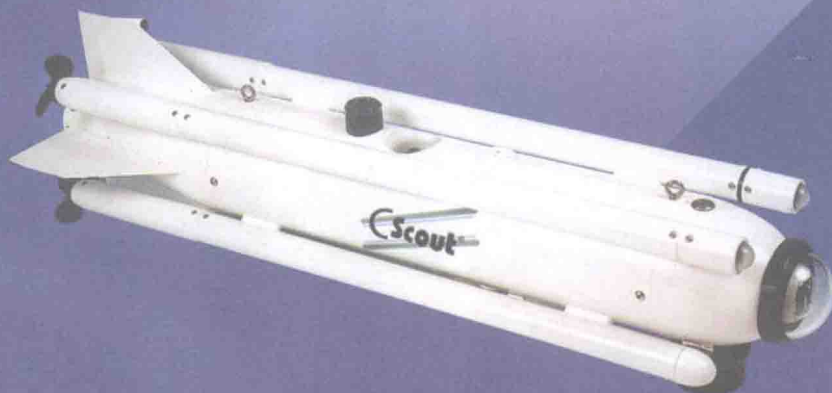
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## Foreword

It is a privilege to be invited to write the foreword for the sixth edition of **Remotely Operated Vehicles of the World**. This publication has deservedly established itself as the single most important document in our industry. It is a great tribute to all those involved in its preparation. On the one hand it comprehensively embraces every aspect of the industry, on the other it pays painstaking attention to detail. OPL has put a great deal of hard and meticulous work into it, which is something for which we should all be grateful.

The industry is continuing to produce ever more sophisticated and ingenious underwater hardware. Compared with the fifth edition of **Remotely Operated Vehicles of the World**, which was published less than two years ago, the AUV count has nearly doubled and there is a 15% increase in the number of ROVs of all types. There is also an increase of two thirds in the number of suppliers of products and services. This is very encouraging but we have to look at this activity in the context of the new world order and where that is leading us.

Since the publication of the fifth edition the world has changed dramatically, sadly in many ways for the worse. We have seen financial markets slumping, volatile oil prices and, following the horrors of 9/11, wars in Afghanistan and Iraq. This changed world has had, and will continue to have a marked effect on the underwater industry. In true Darwinian fashion we must adapt if we are to survive and develop.

Firstly the offshore oil and gas business has been less than ambitious in its offshore investment programmes. This is because the geo-political uncertainties have meant the oil majors have been very unsure about the price of oil. As I write this foreword in the Autumn of 2003 there are still few signs of major new investment. This is affecting both the cash flow and the confidence of the subsea industry supply chain. We are seeing a disappointing number of ROV operators and manufacturers reducing the size of their business.

The other large effect on us has been the worldwide collapse of the IT industry. The grand plans to install tens of thousands of miles of fibre optic cables across the seas and oceans of the world have at best been delayed by some years.

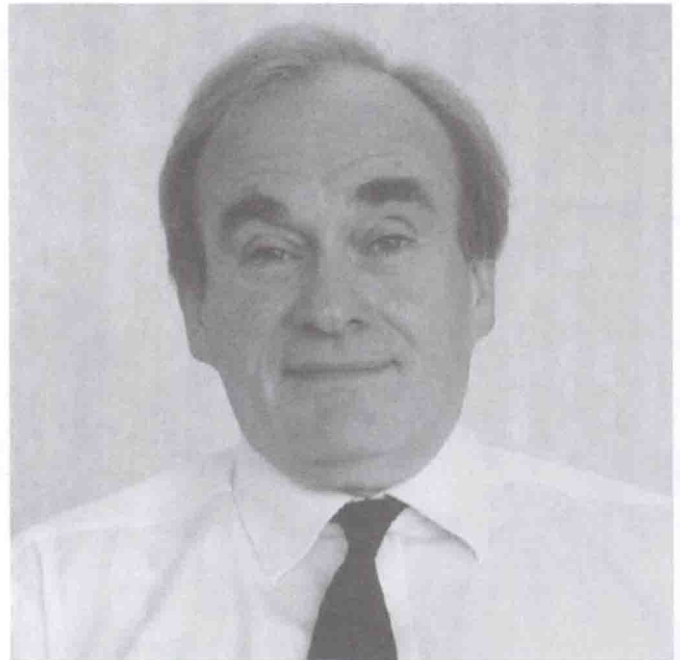
These then are two major negative outcomes of events that no one predicted when we celebrated the new millennium.

However, many new tasks and responsibilities for our community are a direct result of what has been happening. Regrettably terrorism is a growth industry and countering it is generating new market opportunities for AUVs, ROVs and most of the vehicle sensor suppliers. It is now widely recognised that naval bases, harbours and the ships in them, be they aircraft carriers or ocean liners, are extremely vulnerable to underwater attack from swimmers. There is a tremendous opportunity for modified or special purpose vehicles, sonars and other sensors to counter these threats.

We were pleased to observe in the fifth edition of **Remotely Operated Vehicles of the World** that the use of AUVs is becoming routine. This is true on the survey side of the oil and gas business and with oceanographers. However, one thing we are learning is that AUVs are in danger of becoming a victim of their own success. This is simply a function of their productivity. Potentially, a competent AUV can collect data two or three times more rapidly than an ROV so for any given amount of work you don't need so many! The important thing for us therefore is to find more work of different types to ensure continuation of supply and development of AUVs.

Good news is that one of the holy grails of the industry, for which so many have been striving for so long, is now a reality. That of course is the proliferation of genuinely low cost ROVs which are effective and reliable. These exciting little vehicles require a whole new generation of small tools and sensors to develop their full potential. This is creating some interesting challenges for a supply chain more used to producing large and costly offshore systems.

It is now over a quarter of a century since ROVs were first used in anger for commercial applications. Since then we have seen them in routine operation in all seven of the major underwater industries and in all seven seas of the world. ROVs and AUVs are one of mankind's most exciting but least known engineering achievements. We should all be very grateful that OPL is documenting their history so rigorously and spreading the word so effectively with this magnificent new and invaluable publication.



Richard Marsh

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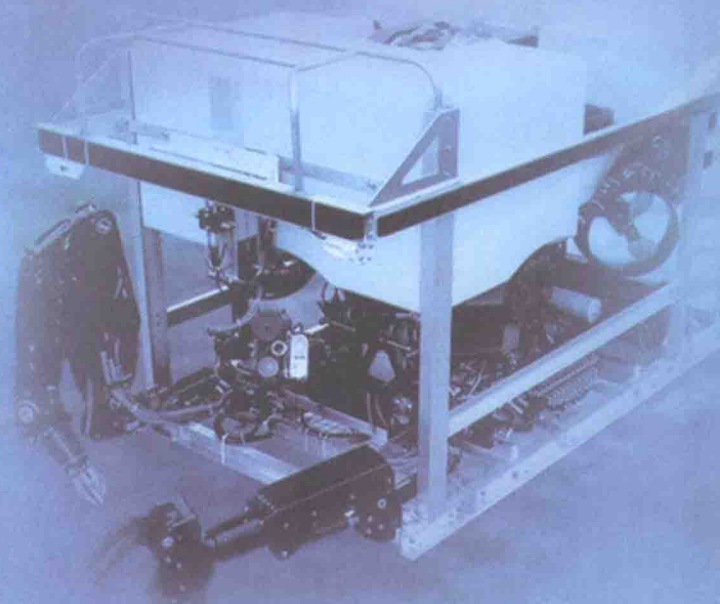


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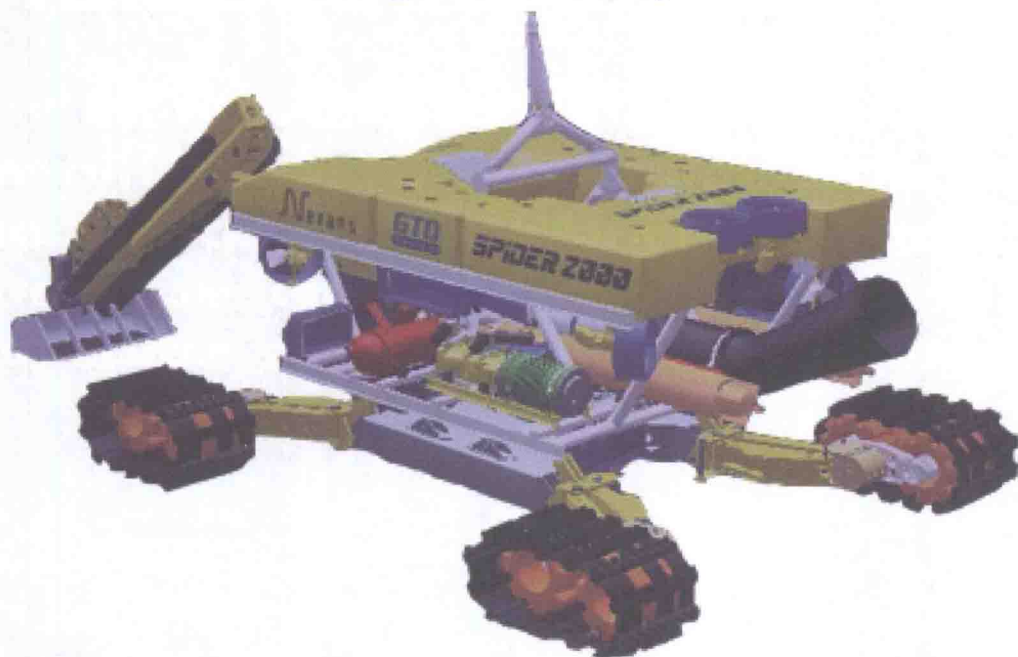
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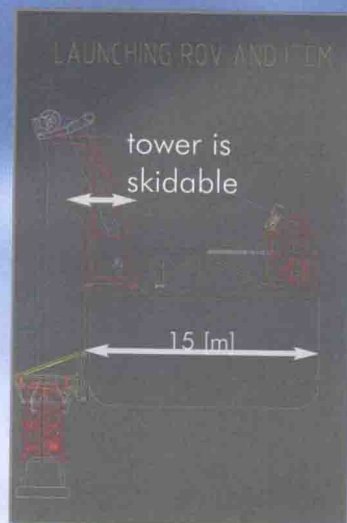
- eyeball ROV with gripper
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**Sutable for:**

- pile installation
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- subsea template installation
- Xmas tree handling
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**Other features:**

- single lift mob / demob
- self contained power unit (diesel)
- footprint ROV and handling system 10 x 15 [m] at 250 [mt], with single lift possibility
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