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What's happened to hovercraft?

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HE collapse last October of the hovercraft service on
the River Thames, and the more widely publicised accident to the hovercraft in which Liberal Party leader Jeremy Thorpe was making a pre-election tour of West Country holiday resorts, have reminded the British public once again of the existence and potential problems of hovercraft. It now seems that the lead which Britain held for twelve years in technology and commercial ex-ploitation has been eroded to the point where the United States will begin to take over within five years.
The reasons for this reversal are outlined in this article. They are complex and difficult to define with precision because the early years of development (1958-64) took place under the less-than-public aegis of Hovercraft De-velopment Ltd, a subsidiary of the National Research Development Corporation, whose files are not yet open to scrutiny. After 1964, well defined commercial companies began to produce hovercraft from their own second- or third-generation designs and, as a result, the situation be-came more easy to follow.
Christopher Cockerell, since knighted, tried without suc-cess in the mid-1950s to interest industry in air-cushion principles. In May 1957, following a demonstration to the Admiralty, the Ministry of Supply placed an evaluation contract with Saunders-Roe but failed to follow up sig-nificantly the broadly favourable report which arose from the evaluation. In the meantime, patent deadlines were approaching and Gockerell sought finance from NRDC so

ACVs: EXPORTS AND GOVERNMENT INVESTMENT (£ million)

Total estimated Governmental
investment in
(1959-1974)
United Kingdom
United States
France
Canada
Japan
USSR

ACVs by country

17-5"
65*
3
4*
7

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Craft sold outside
country of origin

28
0-5
0 2

— 0-2

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* The Investment figures include the cost of craft built for governmental use which may be considered as current assets. ** Actual.

as to be able to file his patents. NRDC provided the money in exchange for an option on the invention.
In September 1968, on the basis of the Saunders-Roe evaluation report, NRDC placed a contract to build an experimental manned air-cushion vehicle (ACV) with Saunders-Roe. This was the SR.N1, which was completed on May 28, 1959, and which made the first cross-Channel ACV trip on July 25, less than two months after com-pletion. It operated on trials and demonstration work until February 1968, when it was loaned to the Royal Navy for Service trials. This first craft's history over 33 months out-lines the kind of development work which was being car-ried out at that period and is typical of developmental work since.

The first operating weight in June 1959 was 3,401kg (7,5001b), which rose because of modifications to 3,855kg (8,5001b). This figure remained steady until April 1960 when a Marbore engine was fitted to supplement the original Alvis Leonides piston engine. During the 14-month life of the Mk 2 (Marbore) version the weight rose from 5,056kg (11,1501b) to 5,600kg (12,3501b). The final weight, with a Viper/Leonides combination of engines, was 6,462kg (14,2601b)—very nearly double the original weight. Ground clearance at the original weight was just under 9in, but as the weight rose this fell to under 8in and to 4-75in when the Marbore engine was installed. Four months of de>- velopment then took place to extract more lift efficiency by containing the airflow around the periphery of the craft with trunking and finally skirting, and this raised the ground clearance figure at 6,462kg (14,2601b) to ll-5in.

In retrospect the significant advances made in that three-year period could explain the over-optimism which seemed to develop in the industry in the early 1960s. In January

Heading, Hoverlloyd's widened SR.N4, which carries 286 passengers and
37 cars. Right, the author is Editor of "Hoverfoil News," incorporating "Air-Cushion Vehicles," the pioneering hovercraft publication which appeared from 1962 onwards as a monthly "Flight" supplement before becoming a journal in its own right in 1968