In summary, the market for fixed platforms is likely to be static and largely associated with shallower sites such as the Netherlands and the South Basin of the U.K. The form of fixed platform is continually being developed by established suppliers to reduce their weight and manning levels.

Floating platforms appear less attractive than when pioneered. Submerged production systems taking advantage of previous investments in deep-water platforms and pipelines represent the favoured new technologies, with calls for R&D being required in:

- optimizing design criteria, including options available at conceptual stages
- installation methods: buoyancy, positioning and downhaul
- operations and maintenance management
- maintenance technology, including developments in atmospheric diving suits (ADSs), remotely operated vehicles (ROVs) and the use of one-person submersibles
- power and control systems, including power generation options (subsea or remote) and control options (hydraulic, electrical, hybrid)
- two-phase flow, i.e., transmitting mixtures of oil and gas along pipelines where, for example, there is a gathering system between remote subsea well-heads and the main processing facilities
- workover operations, for example, production logging, de-sanding, acidising, chemical and nitrogen injection, etc.

3.3 European Procurement for Offshore Oil and Gas Industries Worldwide

While the territorial imperative partly governs participation in capital investment for oil and gas, the continuing demands of international commerce ensure that organizations offering the right technology at the right price can participate in offshore exploration and appraisal activities worldwide. The following tables (Tables 5 and 6) of the types and location of mobile offshore drilling units (MODU) present a different picture of experience in offshore technology from the situation with production systems in E.C. waters.

The E.C. requirement for MODU is almost met by the number owned by E.C. principals. However, especially in U.K. sectors, the balance is made up of MODU with U.S. or Norwegian principals. Closer examination shows that France dominates the E.C. MODU fleet, with the U.K. and Denmark as equal seconds. Much of the French-managed fleet does not operate in the E.C. There is negligible offshore oil and gas activity in French waters.

The build-up of the French offshore capability reflects the French central government involvement. There has been an even more significant control of offshore oil and gas policies by the Italian government through the integrated state-owned oil company (ENI).

Although the Danes have a production monopoly in their North Sea fields, the Dansk Untergrunds Consortium (DUC), a more open market tradition exists there similar to the Dutch and U.K. approach to fostering domestic suppliers without over-protectionism.

It is also notable that two large French operating companies manage their worldwide operations and budgets from Paris, also including subsea and floating production systems. France and, to a lesser extent, Germany have onshore hydrocarbon production. Both have large service and supply industries. France, in particular, has large-scale exports in a number of positions in which it has technical leadership. Would-be entrants to the international offshore industry should consider appointing French-speaking Paris residents with an oil industry background to develop trading links with French operators and contractors.