

## Innovation Management

*Maximising the impact of research for industry by building partnerships and delivering solutions that are driven by business*

### Our Approach

Our Innovation Management services help clients to identify novel ideas and technologies. We work with clients from initial concept through to product launch and will help obtain funding and access the skills and partnerships needed to deliver commercially successful products or services.

BHR Group's awareness of and involvement in emerging technological developments and strong international links with business and research communities allows us to provide the optimal technological and commercial solutions.



### Our services include:

- Co-operating with UK government, European Community and other agencies.
- Formulating business and research plans that address industry's competitive, regulatory and societal drivers
- Building partnerships that access technical and business expertise from around Europe
- Bidding and negotiating contracts on behalf of partners especially SMEs who do not have the resources to develop these skills in house
- Securing national and European grant funding to undertake research that leads to product development
- Employing professional management services suited to technically complex and multi-disciplinary projects
- Managing intellectual property generation, protection and exploitation
- Assessing technology readiness levels, preparing technology roadmaps and providing patent awareness and publication services.

## AquaGen: Developing a New Commercial Wave Energy Power Take-off System

In many wave energy devices hydraulic oil is the primary power transmission system used to convert wave motion into electricity. BHR working on behalf of DEXAWAVE from Denmark, the technology end-user brought together six partners from around Europe to develop a new wave energy device that replaces hydraulic oils with a more eco-friendly water-based power take-off (PTO) system.



Wavepower projects need to have high levels of availability and conversion efficiencies together with low maintenance and operating costs so that it can be cost competitive. This requires AquaGen to develop a number of innovative designs that include a novel power take-off system, variable speed electricity generator, an adaptive blade turbine and light weight yet robust elastomeric structures. The project is also looking into novel protective coatings for marine environments and remote wireless-controlled monitoring of the major onboard systems.

BHR with its vast experience of multi-disciplinary project management and technical expertise in high pressure fluid power leads the team, with the project now at the design concept stage.

## AddNano: Formulating Nanoparticles in Lubricants to Reduce Friction and Wear

Advanced nano-materials recently developed, such as inorganic fullerene-like (IF) materials (Fig 1) and others have shown initial promise in reducing friction and enhancing protection against wear. The transfer of promising nanotechnology research results into new industrial technologies still represents a bottleneck. By manufacturing IF's at commercial scale and incorporating them in stable formulations which sustain their performance they offer the prospect of major tribological and energy reduction benefits.

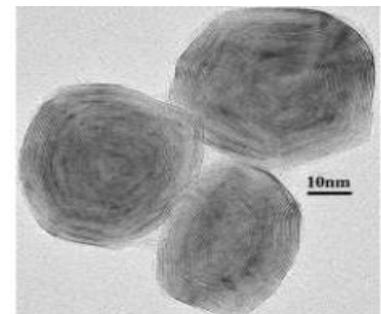


Fig. 1: TEM image of IF nanoparticles

The overall objective of the AddNano project is to overcome the technological barriers involved in the development of large scale market introduction of a new generation of lubricants incorporating nano-materials. The properties and performances of advanced nano-based lubricants will be improved, along with the scaling-up of pilot lines for nanotechnology-based materials, components and processes. The total budget for the project is €12 million with a funding of €8.5 million from the EC. BHR is the overall project coordinator and plays an important technical role leading a strong and international partnership of industrial partners, research centres and universities.



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