



UK Naval Engineering Science and Technology (UKNEST) Forum

ANNUAL REPORT 2006

Introduction

UKNEST was officially formed in October 2005 with the first meeting of the inaugural Steering Group agreeing its' terms of reference (Annex A). From the outset, the membership of UKNEST has been comprehensive and diverse, giving UKNEST its' unique ability to deal with the broad issues that affect the whole UK naval engineering, science and technology (EST) community. The Steering Group (SG) for UKNEST is independently chaired by Sir John Parker, with each of UKNEST's 20 members (see Annex B) having a seat on the SG.

This document reports on the progress made by UKNEST during its first year in being, and outlines evolving plans for the 2007 year.

Achievements

UKNEST operates principally through time-limited Working Groups (WG) established to tackle specific issues. During 2006, three WGs were formed;

Training and Development. This WG was focused on answering the high-level exam question as to whether the UK has a critical skills shortage either now or in the foreseeable future against the broad outlook in the naval programme. This activity involved a member survey and culminated in a workshop. The WG concluded that there was no systemic skills shortage but that a number of measures should be explored to ensure that it stays that way for the long-term. These included sustainment plans in a few niche critical areas, leveraging resources across the entire naval programme, developing the next generation of fully rounded whole platform design leaders, increased use of export opportunity (expertise as well as product), and use of MOD S&T funding.

The WG is planned to continue its activities in 2007 with a new agenda built from the findings of the survey and workshop.

Science and Technology. The formation of the S&T WG was very timely. Originally on an agenda to examine pull-through of S&T into the equipment programme, the WG was quickly re-focused onto supporting the development of the maritime chapter of the Defence Technology Strategy (DTS). UKNEST played a pivotal role in providing comprehensive industry engagement. The DTS is a key document defining:

- The Impact Of R&D Funding On Military Capability



- .UK MOD priorities and capability gaps
- Key maritime technology areas
- Cross-cutting technologies
- Emerging and disruptive technologies
- Means to improve the process for delivering defence technology

The WG continues in 2007 with an agenda arising substantially from the implementation of those parts of the DTS relevant to UKNEST.

Design Process. This WG was formed to address the regularly encountered 'tower of Babel' around design maturity and design process terminology. Formation coincided with the development of the Maritime Design Maturity Model by MOD and the WG played a key role in the validation of the model which is now in active use on CVF.

UKNEST Workshop. The first UKNEST Workshop was held in Portsmouth immediately prior to the SMI Naval Conference. Over 40 attendees from across UKNEST (and non-members) were present for a day of active discussion and debate focused primarily around the activities of the S&T WG and the Training and Development WG. Outputs from the workshop were presented at the Conference and have gone a long way to agenda setting for UKNEST activity in 2007.

House of Commons Defence Committee Hearing. A small and deliberately short-lived WG was established to provide a broad UKNEST view to the HCDC hearing on the submarine programme.

Management and Administration

The inaugural SG agreed to a contract with IMarEST to provide the UKNEST secretariat. This has proved to be a successful arrangement and, subject to SG endorsement in February, is planned to be continued. UKNEST has a co-ordinator (Tim Roadnight) responsible for all the day to day administrative matters.

Steering Group. The SG met four times (BMT Bath, IMarEST London, BAES Submarines Barrow, and Portsmouth) during 2005/06 under the Chairmanship of Sir John Parker. The next meeting is planned in February 2007 at HMS Sultan, Portsmouth. It is planned to continue with three meetings annually, rotating around member's facilities to allow a social and educational element to each meeting.

Co-ordination Group. At the last SG meeting it was agreed that a small Co-ordination Group should be established to assist in spreading the co-ordination workload. Paul Wrobel, Roy Quilliam, Andrew Tyler, Richard Foran, and Martin Murphy agreed to make up this Group and met for the first time in December to forward plan activities for 2007 (see below).



Promotional Activity

A UKNEST web-site was established (www.uknest.org) with details on the objectives of the Forum, membership and on-going activities.

Membership

Although UKNEST has already attracted the vast majority of the UK's major naval EST organisations, it is hoped that the membership may be increased in 2007 and a focused effort will be made to encourage those who are not presently part of UKNEST.

Finance

An annual membership fee of £5,000 was agreed by the SG at the first SG meeting. After IMarEST administrative costs (£21,000), the costs of the UKNEST workshop (£7,500), and miscellaneous costs (£1700), the Forum has a surplus of £51,500. It is proposed that the membership fee for 2007 is held at £5,000 and is reviewed again at the end of 2007. This should allow sufficient funds for activities in 2007 currently under planning.

Forward Agenda

After a positive first year, a certain amount of agenda setting is now required, building on the first year's experience, for the 2007 programme. The Co-ordination Group has mapped out a number of ideas and priorities for further development and approval by the SG in February;

S&T WG. This will continue with an agenda focused on facilitating delivery of the DTS maritime chapter. Specific areas to be addressed will include:

- The merits of a maritime focused "Technical Challenge"
- An Industry/MoD workshop on
 - Industry funding from TRL6
 - Rapid Tech insertion
- Capability audits as a pre-cursor for determining specific strategies for the key areas identified in the DTS

Training and Development WG. A number of ideas have come forward to pursue this agenda including;

- Establishing a UKNEST funded scholarship programme for undergraduates that offer some financial support, but more importantly a round-robin of work experience with UKNEST members (including sea experience with the RN).
- Other activities that would promote naval EST as the profession of choice for leading university undergraduates.
- Developing the next generation of full rounded naval EST leaders. The possibilities for inter-organisational co-operation to provide individuals with the comprehensive experience necessary to thrive at the highest levels.



- Identification of specific niche areas of expertise where a clear sustainment challenge exists, with options for mitigation. Will be able to draw on DTS and MOD Maritime Materiel Change Programme (evolution of Maritime Industry Strategy) data.

Naval Design Partnership. This is presently at the ideas stage, seeking to tackle the identified issues surrounding leveraging of resources across the whole maritime programme. Consideration of UKNEST as a development and consultation mechanism is being explored.

Learning From Experience – Case Law of Naval Design. Much of the deep experience of past leaders in the naval EST world remains in their heads. An idea is being developed to sponsor an annual lecture and paper from one of the community's present or recently past leaders, focused on passing on some of the tacit lessons learned from experience. An evening lecture with reception, coupled with a summary paper is envisaged.

Export as a Sustainment Opportunity. Exploration of the scope for a better UK offering (both product and capability) in the export market. Could include design criteria guidance for RN ships for exportability, better UK plc promotion etc.



ANNEX A – UKNEST Terms of Reference

Background

The formation of the United Kingdom Naval Engineering, Science and Technology (UKNEST) Forum was borne out of recognition that there was a lack of focus in the UK for matters that related to the sustainment and development of the UK's naval design and engineering intellectual base. Whilst considerable attention has been, and is being focused on the naval industrial base, the role of the corresponding intellectual base in under-pinning the industrial base is not being given the attention it should due to its relatively small size and cost. Nevertheless, recent examples have shown the huge impact that failures wholly or partly in the intellectual base can cause in major projects.

Objectives

The proposed overall aim for the UKNEST Forum is;

To provide a forum for the UK's professional naval engineering, science and technology community for addressing issues of common concern, fostering specific professional development needs, and giving a focal point for interaction with, and influencing the wider Government and industrial community.

This objective would be seen in the context of an overall vision of;

Developing and sustaining the vision and implementation of a world-class naval engineering, science and technology intellectual base in the UK.

Implicit within the proposed overall aim are the following objectives;

- Provide a forum where representative individuals can meet on an equal professional basis to discuss matters of interest or concern to the UKNEST community.
- Influence training, education and professional development organizations with strategic advice on the needs of the UKNEST community.
- Provide a representative focus for influencing Government/industry initiatives that will impact the UKNEST community.
- Communicate the value and special interests of the UKNEST community to appropriate professional and public audiences.
- Strengthen the collegiate spirit within the UKNEST community reflecting the shared interests between individuals and organizations.

UKNEST Activities

The UKNEST programme of activities is developed by the Steering Group to meet perceived priorities. The scope of UKNEST activities will include the following;



- **Workshops.** Output focused and professionally-orientated i.e. not approaching issues from a political/commercial viewpoint. Currently candidate topics include design processes, role and function of design authority, skills development, professional development structure, education and training, innovation, tools etc.
- **Awareness Raising and Engagement.** UKNEST has a key objective to influence Government and industry policy and actions for the benefit of the UK's intellectual base in naval engineering, science and technology. In response to specific issues, UKNEST will use its networks to raise issues of concern, and suggest options for consideration.
- **Communication.** Communication of the UKNEST objectives and activities will be established through the Internet and newsletters published at an appropriate frequency.
- **Position Papers and Reports.** There are some issues that will benefit from the development of a position paper or report. Research, surveys and studies will be conducted as appropriate under the auspices of UKNEST.

Membership

Membership of UKNEST is open to public and private organisations with substantial interests in the naval engineering, science and technology intellectual base, and significant UK professional assets. Membership provides one place on the UKNEST Steering Group. Membership of UKNEST is on a one organization, one representative basis, except where the Steering Group approves multiple membership for an organization whose structure suggests that more than one representative might be appropriate. In this circumstance multiple membership fees would be payable.

Governance

UKNEST is directed by a Steering Group with an independent Chairperson. The Steering Group meets bi-annually or at a frequency determined by the members. The role of the Steering Group is to ensure the smooth running of the Forum, agree expenditure and membership fees, and set the priorities for activities of the Forum.

Administration

The secretariat for UKNEST is provided by the IMarEST.

Funding

UKNEST is maintained on a not-for-profit basis with annual membership fees set at a level to permit execution of the Forum's activity. First year membership is £5,000 per member. Members fund the full cost of their own participation (meetings etc.). All other activities e.g. workshops, social etc. are run on a basis that covers costs, with non-members paying a premium for participation. Any operating surplus/deficit is reflected in subsequent year's membership fees.



ANNEX B – 2006 UKNEST Membership

Atkins
Aveva Solutions Ltd
Babcock Armstrong Technology
BAES Submarines
BMT
Converteam Ltd
DML
Houlder
IMarEST
Lloyds Register
L3
Ministry Of Defence DPA
Ministry Of Defence SRO
QinetiQ
RINA
Rolls Royce
S.E.A
Thales Naval
Vosper Thornycroft
Weir, Strachan & Henshaw

