

economics hinges on making significant improvements in powerplant specific fuel consumption and component reliability, which in turn requires sustained investment in research and development. This is something that has been noticeably lacking from recent budgets, with NASA completely cutting funding for rotorcraft research and development in fiscal year 2002. The American Helicopter Society (AHS), together with Bell, Boeing and Sikorsky, managed to get \$12.5 million reinstated last year, but is again facing zero funding in the fiscal year 2003 budget.

R&D budget needed

"US companies are putting less and less into R&D as a result," says AHS executive director Rhett Flater. "Companies are not willing to make the investment without comparable investment in partnership with the US government. When the government ratches down, so does industry. We've got to get the government back in the picture." The AHS and industry are lobbying Congress to get \$50 million put into the fiscal year 2004 budget to support rotorcraft R&D initiatives, and continue funding the long-running NASA/army research partnership.

A lot of the technology first pursued in the 1970s and 1980s and now coming to the fore was a direct result of this funding, which in 2001 totalled no more than \$35 million compared to the \$13 billion pumped into space. "The V-22 would never have come into existence had it not been for the [Bell] XV-15. This was a direct product of the NASA/army partnership, established in 1965 and which has produced such great technology. Funding has now gone and NASA has essentially abandoned rotorcraft research and development entirely," says Borgman.

AHS and industry, if successful in obtaining funding in 2004, have targeted five technology efforts for investment. This includes achieving an 80% reduction in rotorcraft noise over the next 10 years; 10 times lower vibration levels to cut operating and support costs, a 30% lighter rotorcraft empty weight; bringing rotary-wing accident rates down to that of fixed-wing aviation; and giving operators the capability to operate in zero ceiling, zero visibility conditions to open up airspace access.

This picks up on the NASA-funded Runway Independent Aircraft study work done by industry in 2001 to explore vertical take-off landing concepts for alleviating congested airports. Rotorcraft proponents contend that helicopters like the 19-seat S-92, new civil tiltrotors and, later, even larger QTR type developments, could replace fixed-wing aircraft on shorter-haul routes and free up increasingly scarce runway slots for larger, longer-range passenger jets.



Bell is considering plans to invest in a wide range of new and improved products, including the 427 light twin

"This is the Holy Grail of the helicopter industry - the ability of rotorcraft to supplement scheduled fixed-wing aircraft. It can't be done today because of the high operating and support costs, noise, vibration, an unsuitable infrastructure and a lack of day/night capability. If industry could address these issues, rotorcraft could successfully supplement aircraft on routes up to 555km [300nm]," says Flater.

Current airport approaches and airway routings are designed around fixed-wing aircraft and do not lend themselves to the efficient and cost-effective use of helicopters. Until this changes, carriers see no benefit in flying helicopters in an airline role if they are forced to operate them as they would a Beech 1900 and are unable to take advantage of a rotorcraft's VTOL capabilities. Ultimately, change will hinge on decision-makers being convinced that rotorcraft are not the problem, but the solution.

Nearer-term and more non-partisan efforts at bolstering the helicopter industry have focused on alleviating 11 September fall-out, notably easing access to restricted airspace over urban areas and combating skyrocketing insurance costs. Hopes for

lower rates and an insurance industry recovery last year were dashed due to the poor state of the stock market. HAI, in the meantime, estimates that insurance rates have risen by as much as 150% and are increasingly being cited by a number of local manufacturers as a factor in falling sales.

HAI is pushing a number of initiatives to reduce insurance costs such as safe operator programmes and tort reform. "We want liability reform across a number of areas, including the general liability of operators. There needs to be some reasonable cap. Runaway jury awards have been pushing insurance charges higher without the same degree of coverage. A lot of the tort problem is not federal, but state and therefore reform is going to take time," says Resavage.

Consolidation is key

The future competitiveness of the US rotorcraft industry ultimately hinges on consolidation. While Europe has managed to merge its various national helicopter houses into two main companies - AgustaWestland and Eurocopter - US helicopter manufacturers have failed to consolidate in the same manner as the country's airframe, avionics and missiles businesses. There are still three main helicopter companies as well as several smaller piston manufacturers.

"We're at three majors today, though not much has changed from when there were four, as Boeing has not really consolidated its act. It would be healthier for industry if there were just two manufacturers," says Borgman. While US industry has been happy to form product-oriented partnerships, such as BAAC and the Bell Boeing V-22 and Boeing Sikorsky Comanche joint ventures, the respective Textron, Boeing and United Technologies parent corporations have been unwilling to relinquish their interests. "You need a seller as well as a buyer to do that and no-one is interested in taking on this role," notes Murphey. ■

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