



vertiflite Commentary

The Exciting Future of Vertical Flight

By Mike Hirschberg, Executive Director

It's easy to look at the headlines today and get fixated on the doom and gloom that the media often portrays: A global economy that is still struggling for solid footing. Significant cuts in the budget of the US Department of Defense (DoD) and militaries around the world. Slowing orders for larger offshore aircraft as a result of the sudden drop in oil prices. Citizens groups actively working to ban helicopter operations due to noise and safety concerns.

And for the helicopter industry – layoffs. Downsizing at several of the largest helicopter manufacturers have resulted in possibly thousands of lost jobs. Early retirements and other incentives to leave voluntarily have also thinned the ranks of more senior and experienced engineers. Sikorsky and Bell have each shed hundreds of employees over the past two years, both assembly line workers and engineers. Airbus Helicopters, Inc. in Grand Prairie, Texas has drastically reducing its engineering department. Boeing is encouraging or forcing retirements.

All of these experiences are extremely traumatic for all involved, and AHS International is a great support group for those affected. The AHS Career Center is available for members to post resumes and look for jobs. The networking opportunities at AHS meetings and through our online membership database are invaluable resources. And we offer special hardship assistance for dues payments for those laid off.

These painful actions are being taken so that the companies can remain competitive in the global marketplace, and to “rightsized” after the largest expansion of military helicopter production since the Vietnam War. Global military production increased from \$4B in 2004 to \$19.4B in 2014 – nearly a five-fold increase. Although production is predicted to remain high for the foreseeable future, it will necessarily have to come down.

Yet, on the macro level, the long-range outlook for rotorcraft sales has never looked brighter. According to Forecast International:

- Although the US DoD rotorcraft procurement budget is expected to decrease from \$11B in 2014 to \$9B in 2018, it is predicted to rise to \$12.7B in 2021 – an overall increase of 15% from today.
- Global military production will continue above 800 aircraft per year through 2016, then stabilize around 650 units through 2020. This compares to 250 aircraft built in 2004.
- DoD Research, Development, Test and Evaluation funding is forecast to increase from \$1.9B in 2014 to \$2.2B in 2019 – also an increase of 15%.



- Civil helicopter production has been increasing since the 2010 low of just over 1,000 aircraft to 1,500 in 2014 and nearly 2,000 expected in 2020. This is an increase from \$6.9B to \$11B over that period.

Modern rotorcraft are now entering the civil marketplace – from the Airbus EC175 to the Bell 505 – while modern incarnations of tried and true military designs – such as the Mil Mi-171A2 and the Sikorsky CH-53K – promise improved capabilities in the near-term.

Beyond the traditional players of AgustaWestland, Airbus, Bell, Boeing, Sikorsky and Robinson, there has been a resurgence in sales and capabilities from Russian Helicopters (now becoming the world's largest producer of helicopters by value), as well as MD Helicopters

and Enstrom. Newcomers like Guimbal, FAMA and Marengo are gaining in sales, while indigenous manufacturing and development is expanding and increasing in sophistication in China, India, Japan, Korea and Turkey.

From a development perspective, transformational new capabilities will be demonstrated in the next five years. In Europe, the Clean Sky 2 program will be flying clean-sheet civil tiltrotor and compound designs in the 2020 timeframe. In the US, the Joint Multi-Role (JMR) technology demonstrators will fly in 2017, showing what is possible with clean-sheet military tiltrotor and compound designs.

Due to AHS International's lobbying efforts, the US Congress has added \$14M in additional funding in Fiscal Year 2015 to strengthen the JMR science and technology efforts. The JMR demonstrations will lead to a decision for the planned Future Vertical Lift (FVL) acquisition program – which itself was born as the result of AHS lobbying efforts in 2008.

As the leading advocates for vertical flight research and development, AHS has also had similar success in adding NASA Aeronautics funds for vertical flight in FY2015. This builds on our long legacy of protecting NASA rotorcraft research, to help ensure that civil rotorcraft are as capable as possible.

It is an exciting future in vertical flight. With the continued expansion of market demand, global competition is accelerating. Innovation, capability, affordability and reliability will be the hallmarks of the most successful competitors.

AHS International – as the primary forum for interchange of information on vertical flight technology – continues to lead technology, safety, advocacy and other initiatives to advance the state of the art of the world's vertical flight.

