

Investing in the future

Boeing continues to innovate the technology that defines aerospace

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Today, when Boeing is so strongly focused on meeting the near-term challenges of the economy, our customers and our development programs, it's not always easy to look far ahead.

But to ensure the long-range competitive success of our company, we must—and do—look ahead at the various scenarios that might unfold for our customers five, 10 or even 20 years down the road to determine what innovative technologies we need to invest in now to meet their evolving needs.

This is why we continue to read in *Frontiers*, Boeing News Now and elsewhere about our efforts to develop exciting new concepts for highly efficient, ultra-low emissions transport aircraft, autonomous unmanned vehicles, advanced satellite systems, hypersonic vehicles, networked systems and more.

In addition to protecting our future, we also need our technology investments to provide the maximum yield. This is why we have an integrated Enterprise Technology Strategy team that not only evaluates the long-term (as well as short- and mid-term) needs of the business units but also determines which technologies will meet those needs and whether we should develop them in-house or acquire them elsewhere.

Through this approach we have identified eight technology domains that we think are critical to our future success. Within these domains, engineers from Integrated Defense Systems, Commercial Airplanes and Boeing Research & Technology work on technology projects that benefit both our commercial and defense businesses, and that might also open new business opportunities for Boeing. These collaborative teams also ensure that technology gaps and duplication are avoided and that replication is maximized.

As a result, our current integrated technology plan reflects more than \$200 million in company investments that benefit multiple programs and fills gaps identified in such areas as rapid prototyping and open-fan engine technology.

Additional savings are being achieved through such replication opportunities as applying robotic drilling technology developed by BR&T for the 787 program to the F/A-18E/F, employing non-destructive composite evaluation techniques on the 787 program that were developed with company funds by IDS, and leveraging Commercial Airplanes' development work in alternative fuel

technology for potential U.S. Department of Defense solutions.

And even further benefits are being realized through greater company-funded collaboration among Commercial Airplanes, IDS and BR&T in the development of more innovative and affordable technologies in areas such as composites, network systems, integrated health management, and modeling, simulation and analysis.

In fact, this integrated enterprise approach is reinforced by how Engineering, Operations & Technology's new, centrally managed BR&T organization has been chartered to focus as much on providing mid- to long-range technologies that benefit the enterprise as on near-term solutions. It does this not only by conducting its own research and development but also by searching the world for the most innovative, cost-effective technology solutions possible. Last year, for instance, BR&T opened a new research and technology center in Australia and another in India, adding to the Boeing R&T centers already established in Europe and Russia.

As we continue to tackle our near-term challenges, we also continue to plan for how we will continue to define the future of aerospace in the same innovative ways we have over the past nine decades, during which our employees developed and produced such industry firsts as: all-metal airplanes; retractable landing gear and controllable trim tabs; pressurized cabins and high-altitude commercial airplanes; the flying boom and aerial tankers; tandem rotor helicopters and manned hypersonic aircraft; geosynchronous communications satellites; and spacecraft that put man on the moon.

Yes, Boeing employees have done amazing, sometimes seemingly impossible things, and continue to do so. Furthermore, they manage to do all these amazing things even during times of significant global and economic challenge.

So I'm confident we will succeed with our current challenges, too, and I'm excited about what lies ahead. There will certainly be more challenges for us and our customers, and many of them will require the kind of innovative and affordable technology solutions that have made Boeing employees famous. That's why we continue to plan ahead and position Boeing for future success. ■