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Rockwell Collins

horizons

OUR LARGEST ROLE YET

The new Boeing 787 Dreamliner – now in service in Japan – has more Rockwell Collins content than any other commercial airplane.

Inside the 787 »
pages 10-11

Our work is far from complete

When the Boeing 787 Dreamliner recently entered service, it ushered in a new era of unprecedented efficiency and enhanced capabilities for airlines around the world. It also took to the skies with more Rockwell Collins content than any other commercial airplane in history.

This is a proud time for our company. As the provider of the 787's flight deck displays and crew alerting system, pilot controls, communication system, safety/surveillance system, Core Network cabinet and the Common Data Network for the Common Core System, we played an essential role in the aircraft definition and integration.

And I'm pleased to say that we set the standard when it comes to collaboration with Boeing. Rockwell Collins was given an outstanding opportunity in 2004 when the Dreamliner contracts were announced and, as a company, we really stepped up on a broader scale. This positions us well for competitions on future platforms.

Yet, as you will read in the cover story in this issue, our work is far from complete. As airlines around the world take delivery of this new airplane, we have to continue to focus on quality, reliability and customer service. First impressions are important, and in order to meet and anticipate customer needs, we have to be strategic and systematic. That means we can't leave anything to chance.

For us, this is another outstanding opportunity. It's a chance to step up yet again and set a new standard – now with the airlines operating the 787.

Whether you're working on solutions for the 787 or one of the many other programs under way within Rockwell Collins, I encourage you to stay focused on quality, reliability and customer service throughout FY'12. This will not only contribute to the success of the company now, but also help position us for the future. ▪

Clay Jones
Chairman, President and CEO

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The Boeing 787 Dreamliner, which has more Rockwell Collins content than any other commercial airplane in history, received certification from the U.S. Federal Aviation Administration and the European Aviation Safety Agency at the end of August. In late September, ANA of Japan celebrated delivery of the first 787. One month later, ANA pilots flew the first 787 commercial flight from Tokyo's Narita Airport to Hong Kong.

On the back cover

This ad — which emphasizes the critical solutions our company provides the military to operate unmanned aerial vehicles — appeared in Flight Evening News in support of the Dubai Air Show.

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A magazine for the employees and friends of Rockwell Collins

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The following articles may contain forward-looking statements including statements about the company's business prospects. Actual results may differ materially from those projected, as a result of certain risks and uncertainties, including but not limited to those detailed from time to time in our earnings press releases and Securities and Exchange Commission filings.

Using Lean to solve problems

When employees in Bellevue, Iowa, realized a variation within a product was causing a defect, they turned to Lean to find out why.

Senior Industrial Engineer Matt Wedeking has worked at Rockwell Collins in Bellevue, Iowa, for more than a decade. During that time, he's seen a lot of solutions change from red label avionics (as part of preproduction systems) to black label avionics (as part of the final aircraft design). So when the Graphic Generator Module (GGM) in the display and crew alerting system for the Boeing 787 Dreamliner was upgraded from red label to black label nearly two years ago, he didn't expect anything out of the ordinary to happen.

Yet, something extraordinary did happen. The GGM wasn't working properly after the upgrade. The team recognized a variation between the red label and black label was resulting in a defect. Through the use of Lean problem solving, the team was able to isolate and determine the source of the variance – or defect.

Lean perspectives

Q *How did you discover the problem?*

A Once we changed out a few parts as part of the red label to black label upgrade, our test technician Bryan Till found failures. We discovered that the Copernicus ASIC (Application-Specific Integrated Circuit) on the GGM was warping. While we realized it was causing the defect, we didn't know why.

Q *What did you think was causing the problem?*

A We wondered if it was something in our process that was causing too much heat or if it was a problem on the board. Since we weren't having the failures during red label, as part of the problem-solving process, we began comparing everything between red label and black label and asked the 5 Whys (a Lean tool that uses a question-asking method to determine an underlying problem). When test engineer Todd Lahey compared the red label ASIC to the black label ASIC, we found the root cause.

Matt Wedeking

Q *What was the root cause?*

A The supplier had changed the ASIC without us knowing.

Q *What did your team learn from the experience that helps you continuously improve?*

A It's important to keep an open mind and use the Lean tools you have to lead you in the right direction. ▪

Lean tools: 8-Step Problem Solving Process

Plan – Do – Check – Act (PDCA)

The 8-Step Problem Solving Process was implemented at Rockwell Collins as a common method to address problems, including any type of quality issue or variation in a process.

Plan	**Step 1** Define the problem	**Do**	**Step 6** Execute action plan
	Step 2 Clarify the problem	**Check**	**Step 7** Evaluate the results
	Step 3 Define the goals	**Act**	**Step 8** Continuously improve
	Step 4 Identify root cause of the problem		
	Step 5 Develop action plan		

Employees can learn more about this Lean tool on the Lean Electronics website found via "L" in the Rockwell Collins Online Index.

There's an app for that: Rockwell Collins releases two mobile apps

Our company recently launched two mobile apps for the business aviation community.

The new Ascend Flight Manager™ iPad® app provides pilots and crew global access to the industry's only fully integrated information management solution that can streamline all aspects of flight operations from preflight scheduling, to flight planning, to closeouts. The app provides direct access to the Ascend Flight Manager online flight planning tool and the Ascend Flight Operations System (FOS®) schedule and dispatch solution.

"The integration of Flight Manager and FOS in an app brings flight operations to a whole new level – one that equates to significant cost savings and efficiency gains from less fuel burn, more precise flight routes, and the elimination of hard copy aircraft and crew logs," said Steve Timm, vice president and general manager of Flight Information Solutions for Rockwell Collins.

In addition, Rockwell Collins has a new iPhone® and iPod® touch CabinRemote app for our Venue™ cabin management system that allows passengers to control all Venue audio-video systems, as well as aircraft lighting, shades and many other functions from any location in the cabin. Passengers also can display our Airshow Moving Map on their devices in aircraft equipped with a Rockwell Collins Media Center.

"The CabinRemote application demonstrates Venue's ability to provide our customers with the convenience of having the same capabilities they are familiar with at home, such as the iPhone, available onboard their aircraft," said Dave Austin, vice president and general manager of Cabin Systems for Rockwell Collins. ▪

Panorama display shrinks the gap between the real world and simulated

Rockwell Collins unveiled its Panorama Glass Front Projection (GFP) display in November 2011 in Orlando, Fla., at I/ITSEC, the world's largest modeling, simulation and training conference.

When coupled with the Rockwell Collins EP®-8000 image generator system, the Panorama GFP display provides trainees with a level of visual scene content and display performance fidelity that was previously unavailable.

"With ever increasing demands for higher fidelity training, Panorama GFP brings an innovative visual display solution to the training environment for aircrews that further shrinks the gap between the real world and the simulated," said LeAnn Ridgeway, vice president and general manager of Simulation and Training Solutions for Rockwell Collins. ▪

Building our communities

It's estimated that Rockwell Collins employees throughout our enterprise devoted more than 100,000 hours in 2011 volunteering for causes they care about. For example, earlier this year, Victoria Meggers and other Rockwell Collins volunteers in Iowa built a greenhouse from the ground up at YMCA Camp Wapsie in Coggon, Iowa.

Employees interested in learning more about volunteer opportunities in 2012 should search for "community involvement" on www.rockwellcollins.com or view the Volunteer Portal via "V" in the Rockwell Collins Online Index.

A need for *speed*

Rockwell Collins' Tactical Targeting Network Technology (TTNT) played a key role in the U.S. Navy's demonstration of an autonomous carrier landing capability. During this historic operation on the USS Dwight D. Eisenhower, an F/A-18D Hornet served as a manned surrogate for the X-47B unmanned demonstrator aircraft.

A demonstration on the USS Eisenhower successfully showed how Rockwell Collins' TTNT has the potential to assist with landing unmanned carrier aircraft.

It was the rumble of cheering that let Mark Austin know the "hands-free" test landings on a United States Navy carrier were a success.

Austin, a senior software engineer in Government Systems at Rockwell Collins in Cedar Rapids, Iowa, spent two weeks this past summer on the aircraft carrier USS Dwight D. Eisenhower, assisting in the testing of Rockwell Collins' Tactical Targeting Network Technology (TTNT) as part of the Navy's Unmanned Combat Air System Carrier Demonstration (UCAS-D) program.

The test event was designed to demonstrate the maturity of the ship-based software and systems that will allow Northrop Grumman's X-47B unmanned aircraft to operate from the deck of a carrier. Northrop Grumman is the Navy's UCAS-D prime contractor. While an F/A-18D Hornet served as a surrogate for the X-47B, and a pilot was ready in the cockpit as a precaution, the system autonomously calculated the flight paths itself.

"Everyone on the carrier was extremely excited to know the aircraft landed without human intervention or someone remotely operating a joystick," explained Austin, who was in the carrier's ready room below the deck when the test took place. "It was all based on the computer, so it was truly automatic."

Speed matters

TTNT, an advanced tactical data link designed for airborne networking, is enabling Unmanned Aerial Vehicles (UAVs) to do things never done before, according to Steve Bouchett, principal engineering manager in the Advanced Technology Center (ATC).

Developed by ATC and Government Systems employees, TTNT is able to transmit Precise Global Positioning System (PGPS) data in 10 to 20 milliseconds. When compared to other data link solutions that take up to a second to transmit — a delay unacceptable for autonomous landing on a carrier or for autonomous refueling — TTNT is proving speed matters.

"The time difference between our solution and other solutions is significant," said Bouchett. "With TTNT, communication is practically instantaneous."

Preparing for the future

Over the next year, Rockwell Collins will continue to prepare for future TTNT trials to support the UCAS-D program. More surrogate tests are planned for 2012, and carrier trials of the X-47B are scheduled for 2013. Tests for autonomous aerial refueling also are part of the program schedule. Austin and Scott Green, programs manager in Government Systems Communication products, recognize the significance of Rockwell Collins' role in these demonstrations.

"Precise navigation, very low latency and ad hoc networking are required for these test events," Green emphasized. "Our TTNT technology directly enables the demonstrations."

Austin said the recent test on the USS Dwight D. Eisenhower was an amazing thing to experience.

"People on the carrier knew they were seeing something for the first time," he said. "But it took a lot of people to make it all possible." ▪

By Erica Solum

Rockwell Collins employees Mark Austin (left) and Scott Green hold the TTNT Phase III Terminal that enabled the demonstration.

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Game changer

Live Virtual Constructive training helps soldiers communicate in the real world.

Travis Klopfenstein's experience as a Joint Terminal Attack Controller (JTAC) makes him the perfect subject matter expert for Rockwell Collins' Tactical Aircraft Online Service (TAOS) – a system that uses a combination of live aircraft, mobile ground equipment and game-like simulations to bring better and more affordable close air support training to the warfighter.

When you return from a quick reaction force mission in Afghanistan with bullet holes through your windshield, you know it's not a game. But that doesn't stop squads from playing first-person shooter video games after the mission is over.

Travis Klopfenstein, a principal program manager in Government Systems, experienced this irony firsthand when he deployed as a member of the United States Air Force Tactical Air Control Party (USAF TACP) supporting the 173rd Airborne Brigade Combat Team in northeastern Afghanistan.

"When I pushed out to the remote battalion and company bases, I was surprised to see soldiers with Xbox® systems in their tents and hooches," said Klopfenstein. "The soldiers would run their own Ethernet cables and network the systems from tent to tent."

Tactical shooter games require teamwork, communication and strategy to succeed. And as Klopfenstein watched squads play, he began to see parallels between the gaming environment and the mission they had just been on.

"Their experiences in the real world were helping them play better as a team in the gaming world, and their experiences in the gaming world were helping them communicate better in the real world."

Klopfenstein later realized that these parallels could be beneficial in developing new and improved training.

More than a game

Today, Klopfenstein is working with our Advanced Technology Center to develop a Live Virtual Constructive (LVC) training capability called Tactical Aircraft Online Service (TAOS).

TAOS is literally a flying flight simulator system that uses live airplanes that can communicate with ground training units anywhere in the world. It allows aircrews and Joint Terminal Attack Controllers (JTACs), who direct the action of combat aircraft from a forward position on the ground, to interact in live close-air support training missions without having to be in the same location. Mobile ground components are connected by a wireless data link, allowing squads to interact as if they were in the same battlespace as the aircraft. Computer-generated participants and assets are part of the training scenario, representing friendly and hostile forces (similar to gaming systems like "Call of Duty").

TAOS is being developed as a joint venture between Rockwell Collins and The University of Iowa Operator Performance Laboratory.

Training resembles actual scenarios

TAOS training has already proven the ability to save JTAC squadron commanders thousands of dollars and help teams stay current on training certifications. But Klopfenstein envisions an even broader role for gaming technology in future training systems. He sees the potential to build an ad hoc training environment that participants can enter 24 hours a day. A system like this would provide easy networking of multiple participants anywhere in the world.

"The online gaming environment has a natural randomness where players jump in and jump out," explained Klopfenstein. "There's an unpredictableness in the game that more closely resembles what happens in theater."

What's even more exciting about this type of training is that it can be equally valuable for pilots, other branches of the military, and government entities such as police and firefighting organizations – any work that requires specialized training.

"If you can build live virtual constructive training that more closely resembles actual scenarios, people will be more likely to plug in and participate, even if it isn't a requirement," said Klopfenstein. ▪

By Jack Zumwalt

Live Virtual Constructive (LVC) training

The three elements of an LVC training system synchronize to create one of the most powerful, adaptable and cost-effective training methods available for tactical airborne and ground-based warfighters. This training is live because it uses real jets flown by experienced pilots. It is virtual because the picture from the training range is projected into a Mobile Joint Terminal Attack Controller Training Humvee. It is constructive because it adds computer-generated participants and assets to the training scenario, representing friendly and hostile forces (similar to gaming systems like "Call of Duty").

OUR LARGEST ROLE YET

The new Boeing 787 Dreamliner – now in service in Japan – has more Rockwell Collins content than any other commercial airplane.

Gil Parmelee

It's 6:30 a.m. on a Wednesday and the newest aircraft in ANA's fleet – the Boeing 787 Dreamliner – is set to depart in half an hour. Gil Parmelee, a principal account manager in Rockwell Collins Air Transport Customer Support, is on duty at Haneda Airport in Tokyo, Japan, doing preflight checks. As our company's 787 introduction team leader, Parmelee knows how important first impressions are.

"My team works with Boeing to make sure that airlines taking delivery of the new 787 have everything they need in terms of support for a smooth introduction," he explained, emphasizing that Rockwell Collins has more content on the 787 than any other commercial airplane in the company's history.

"We're monitoring our systems' reliability 24 hours a day, seven days a week. Our goal is to maintain the highest technical quality."

Meanwhile, on the other side of the world, in Bellevue, Iowa, it's 4:30 p.m. on a Tuesday and Production Operator Della Ernst just finished her work day. Along with coworkers Darla Linden and Patti Hager, Ernst spent the day building units for the 787 Core Network, a Rockwell Collins solution that securely manages onboard data flow to improve airline efficiency. According to Ernst, they're excited to provide breakthrough technology for this brand new aircraft.

"We know how important it is to build the solution right the first time," said Ernst, who has experience building six different top-level units for the 787 Core Network.

Eighty miles west of Bellevue, at our facility in Cedar Rapids, Iowa, Kurt Pettinger is sitting in his office looking at the data coming from the on-site team in Haneda.

"Information is flowing fast," said Pettinger, manager of Boeing Support Programs. "All of this data is being used to increase dispatch reliability to levels never seen so quickly on a new airplane program."

Reshaping the industry

The 787 program at Rockwell Collins, which has been ongoing since 2004, has always been buzzing with activity. Yet recent major milestone achievements have brought a new level of excitement.

At the end of August, the aircraft received certification from the U.S. Federal Aviation Administration and the European Aviation Safety Agency. In late September, ANA of Japan celebrated delivery of the first 787. One month later, ANA pilots flew the first 787 commercial flight from Tokyo's Narita Airport to Hong Kong. Now, other airlines around the world also are preparing for the introduction of the 787 into their fleets.

"It's not often in a career that you get to be involved in something this big," said Brad Weyer, senior director of Boeing Programs for Rockwell Collins, who participated in the delivery ceremony. "I believe the 787 will reshape the industry."

Ten years ago, Weyer took part in the early concept discussions for Boeing's Dreamliner. So when he stood in the rain in September at the delivery ceremony

continued on page 12 >>>

Della Ernst

Brad Weyer

Inside the 787

The Rockwell Collins teams behind the 787 are making history when it comes to commercial flight.

The first of a new generation of aircraft, the Boeing 787 Dreamliner will provide airlines around the world with new levels of safety, efficiency and reliability. The images on these pages highlight many of the Rockwell Collins products provided on the 787.

"Rockwell Collins employees who contributed to the 787 should be proud," said Brad Weyer, senior director of Boeing programs for Rockwell Collins. "We've developed some of the most technically advanced systems ever deployed on an aircraft, and the open sharing of ideas helped us achieve a strong working relationship with Boeing."

Flight deck

As the provider and integrator for the 787's flight deck displays and crew alerting system, pilot controls, communication system and safety/surveillance system, most Rockwell Collins solutions are found in the front of the aircraft.

1 ***Dual Head-up Displays***
2 ***Display Control Panels and Remote Light Sensors***
3 ***Primary Flight Displays***
4 ***Multifunction Displays***
5 ***Multifunction Key Pads***
6 ***Cursor Control Devices***
7 ***Control Stand, Throttle and Control Modules***
8 ***Tuning Control Panels and Audio Control Panels***
9 ***Flight Controls (including all electro-mechanical assemblies beneath the cockpit floor)***

Additional Rockwell Collins avionics found in various locations throughout the airplane:

- *Integrated Surveillance System*
- *Weather Radar Antenna Unit*
- *Flight Deck Recorders*
- *Flight Deck Audio System*
- *Core Network*

Darla Linden in Bellevue, Iowa, builds a unit for the 787 Core Network. It is a key element in Boeing's objective to "e-enable" the entire aircraft and manage onboard data flow.

Adam Schutte in Cedar Rapids, Iowa, tests a display for the 787. The five 12-by-9.1-inch displays on the 787 offer 546 square inches of display space – twice that of the Boeing 777 – allowing pilots to see more information.

Nidia Cortes Meza in Mexicali, Mexico, works on a flap module for the pilot controls. The modular design of the pilot controls, which includes auto throttles, pitch, roll, yaw and primary flight controls, simplifies installation and maintenance.

David Buontempo in Melbourne, Fla., assembles a unit for the Integrated Surveillance System (ISS). The ISS includes functions such as hazard detection, traffic alert and collision avoidance, and terrain awareness and warning capabilities.

Additional Rockwell Collins avionics found in various locations throughout the airplane:

- ***Communication System***
  The 787's communication system includes Rockwell Collins' VHF-2100, SAT-2100 and HFS-900D transceivers.
- ***Common Data Network***
  The Common Data Network, a component of the Common Core System, is a fiber optic and copper network that manages the information flow between the aircraft's onboard systems.

Fred Babb, a test tech in Wilsonville, Ore., holds a data input device to calibrate a 787 Head-up Display (HUD). The 787 is the first Boeing aircraft where dual HUDs are standard features. The HUDs allow pilots to see flight data while looking ahead out the windows.

>>> *continued from page 9*

in Everett, Wash., near the factory where the 787 is assembled, he couldn't help but think of how our company has grown as a result of the program.

"We played a much more central role in the aircraft definition and the aircraft integration than we ever have before when working with Boeing," said Weyer. "We proved Rockwell Collins is capable of stepping up on a broader scale."

In 2004, Boeing announced that our company would provide the flight deck displays and crew alerting system, pilot controls, communication system, safety/surveillance system, Core Network cabinet and the Common Data Network for the Common Core System on Boeing's Dreamliner. And, unlike previous platforms, Boeing made it clear that the content would be based upon a supplier furnished equipment (SFE) procurement model. Under this agreement, 787 suppliers such as Rockwell Collins are assured of being the exclusive provider of aircraft solutions originally selected by Boeing at the beginning of the program.

"The 787 is the first all-SFE air transport airplane," explained Weyer, "so first impressions are important."

Committed to customers

Developing a good first impression over the next year will be challenging, partially because expectations for this long-awaited aircraft are tremendously high. From a technology standpoint, the 787 also is more complex than previous platforms in order to provide new levels of functionality and efficiency.

"We've just come through the aircraft testing and certification stage of the program where we've maintained a great deal of trust with our customer. But now, we're moving into another chapter," explained John Schneider, 787 programs manager at Rockwell Collins. "It goes back to – as in the last chapter – the customer knowing we're committed."

Not long before ANA received its first 787, Margaret Wilhelm, a principal quality assurance engineer in Operations in Bellevue, had a chance to preview the aircraft in Everett.

"It gave me a whole new perspective on why it's important that we deliver the best quality and reliability," said Wilhelm. "I could see how our products and systems fit in with everything else on the aircraft."

Wilhelm has been working with employees in Iowa locations to identify and prevent potential quality problems before components ever leave the manufacturing floor. According to Gordon Davis, director of Air Transport Systems Operations, this focus on quality is part of a larger strategy to ensure customers like ANA can count on our solutions.

"When it comes to operations, how we treat 787 solutions is no different than any other platform," explained Davis. "In order to ensure we're meeting customer expectations, we must hold ourselves to higher goals. That means we're constantly trying to exceed expectations."

Keith Stover, the Rockwell Collins chief engineer for the 787 program and a former pilot for the U.S. Air Force and Delta Airlines, has flown on a 787 twice so far. He's also no stranger to other Boeing flight decks – he's instrument rated to fly six different Boeing airplanes. When he compares the 787 to previous platforms, he believes it will set a new level of expectations among pilots and airlines.

"The Dreamliner is the most integrated airplane ever flown," said Stover, who began serving as the on-site liaison in Everett for Boeing 787 teams in 2008. "Previous airplanes have isolated systems, while the 787 is treated as one entity.

"It took a lot of high-level cooperation among all teams to make this happen," he continued. "Of course, this integration is what will make pilots' jobs easier and more efficient. That efficiency transfers to the airlines."

Focused on reliability

An example of this sophisticated level of integration is the health-monitoring of the airplane. Systems provide self-monitoring and automatic reporting of maintenance, and through the Airplane Health Management system, which in part is hosted by the Rockwell Collins Core Network, live data is streamed to ground-based computer systems.

This function allows airlines' service engineers and maintenance personnel to identify issues proactively and provide better preventive maintenance.

"It's all part of an effort to get ahead of problems and have solutions ready so, when the 787 lands, it can dispatch again on time," explained Pettinger. "Airlines want to be able to solve problems on site."

For customers like ANA, this is extremely important. ANA has some of the top reliability goals in the world because its domestic flights are competing with the highly dependable bullet trains in Japan.

According to Boon Yen Ng, general manager of the Rockwell Collins Service Center in Singapore, ANA was the first airline to enter into a Rockwell Collins Dispatch℠ 100 agreement for its 787 fleet. Under this agreement, our company will provide maintenance repair and on-site technical support, spares and logistics management. It's also the first ever Dispatch 100 agreement with ANA, and Rockwell Collins in Singapore will be the main focal point.

"ANA has very high expectations for support for this platform," said Boon Yen Ng, whose service team has a long-standing relationship with ANA. "We have the capability in Singapore, and we know what we need to do to make it successful."

While other Rockwell Collins Service Center locations like Seattle, Wash., are key to supporting 787s, employees in Singapore will play a unique role due to the number of Dreamliners that will be flying in the Asia-Pacific region in the future.

"Being the launch customer and the first airline to fly the 787 is very exciting for ANA," said Parmelee, who will travel to each airline over the next year to support local service teams. "Yet the 787 became a reality for all partners when it was delivered to Japan. We're all very proud." ▪

by Crystal Hardinger

Rockwell Collins employees Gil Parmelee (center), a principal account manager, and Kay Chor "Andy" Lim (far right), senior customer service engineer from Singapore, are pictured with entry into service team members from Boeing and ANA at the 787 Command Center at Haneda Airport in Japan.

Paving the way

Our PAVES™ 3 in-flight entertainment system will help passengers remain connected and entertained on single-aisle commercial aircraft.

Clare Josey is no stranger to frequent airline travel. A principal marketing manager for Rockwell Collins' Cabin Systems business in Tustin, Calif., Josey flies from one location to another touting our company's products and solutions as part of her regular routine.

While she's grown accustomed to spending time on an airplane, the Suffolk, England, native admits it's difficult to stay connected to the office while she's in the air.

Josey also said it's hard to remain in touch with family and friends, and oftentimes flights can become "somewhat boring." That's why she can relate when passengers say they want to remain connected and entertained in the air the same way they are on the ground.

"We know customer expectations are growing because everybody seems to have mobile devices such as smartphones and laptop or tablet computers, and they're bringing those devices onto the airplane," said Josey. "They want to be in touch, in control and informed throughout their journey."

Those increasing passenger expectations – coupled with a surging demand for single-aisle aircraft over the next two decades – are why Rockwell Collins decided the time was right in mid-September to unveil PAVES™ 3.

The new programmable audio video entertainment system, designed for single-aisle commercial aircraft, offers more choices for passengers and versatility for airlines.

"Airlines today – in an effort to differentiate themselves from their competitors – are looking to improve passengers' onboard experience," said Craig Elliott, senior director of Airline Sales for Air Transport Systems in Cedar Rapids. "They want the passenger's entire journey – whether on a single- or twin-aisle aircraft – to be seamless. They also want an in-flight entertainment system that allows for quick gate turns without additional content loading or maintenance."

Clare Josey, a principal marketing manager for our Cabin Systems business in Tustin, Calif., played a key role in the launch of PAVES 3. The in-seat touchscreen media player units provide high-definition content in a range of display sizes.

Stacy Cha, Fred Alvarado, Jeff Goodman, Peter Hurley and Meena Pramudi (left to right) are part of the Rockwell Collins team that designed PAVES 3 using a client-centric architecture instead of a server-centric architecture. This allows for content to be cached at the seat, making the entertainment experience smoother and more reliable for passengers.

More choices for passengers

Passengers want reliable high-definition audio and video content in seat displays as well as the ability to connect their mobile devices to access their personal content, according to Dave Austin, vice president and general manager of Cabin Systems.

"We live in a world of choice, and airlines are no exception," explained Austin. "If passengers know their mobile experience will be enhanced while in flight, they'll be even happier."

Keeping this in mind, the PAVES 3 in-seat touchscreen interface makes it easy for passengers to scroll from one application to another and connect and charge their personal devices.

For those who don't bring a personal device on board, the system provides high-definition video, games and applications. Passengers also have the option to view live updates from digital news sources and magazines, and can access social media sites such as Facebook® and Twitter.

Versatility for airlines

For the last decade, overhead video systems have been the most popular in-flight entertainment option among airlines. But unprecedented demand for single-aisle aircraft – due primarily to higher fuel prices and continued growth in regions including South America and the Asia Pacific – prompted Rockwell Collins engineers to focus on a scalable solution for single-aisle aircraft that would offer more versatility.

Today, PAVES 3 is the only single-aisle digital in-flight entertainment system that can provide a variety of in-seat and overhead display combinations. It also allows airlines to download a wide variety of software applications, provides flexible storage content, contains a quick release mechanism for easy maintenance, and offers real-time monitoring through remote diagnostics. In addition, content can be cached at the seat so the system is more reliable.

"What we've done with PAVES 3 – making it a scalable platform – has really set the bar high," said Josey, noting entry into service is scheduled for 2013. "Rockwell Collins has come up with the right solution that absolutely hits the big points for customers." ▪

By Jill Wojciechowski

Until now, overhead systems have been the most popular option on single-aisle aircraft. PAVES 3 provides airlines the ability to select from a variety of overhead and in-seat monitor combinations. It also is compatible with our industry-leading PAVES™ 1 and PAVES™ 2 overhead in-flight entertainment systems, which are installed on 1,600 aircraft from 112 airlines worldwide.

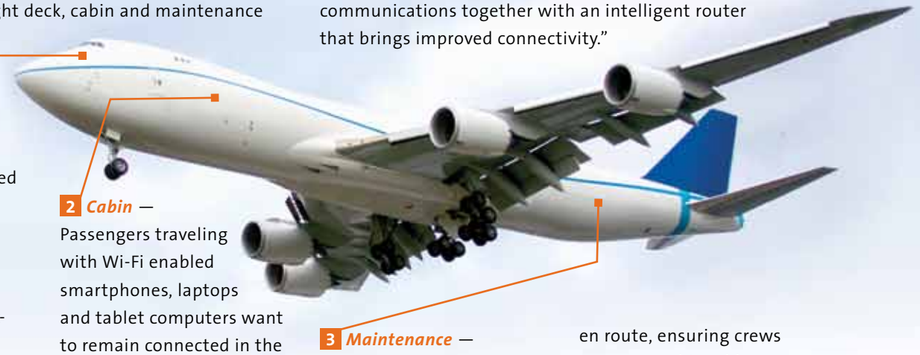
A portfolio of connectivity solutions

Technological advancements in recent years have prompted people worldwide to communicate and stay connected like never before. But once inside an aircraft, the ability to connect electronic devices quickly dissipates.

"Today, the only place where I can't remain connected is on an airplane," said Steve Timm, vice president and general manager of Flight Information Solutions for Rockwell Collins. "But that's continuing to change."

According to Timm, the missions that occur in each area of the aircraft – flight deck, cabin and maintenance – have different connectivity requirements. That's why Rockwell Collins has developed a portfolio of connectivity solutions spanning satellite- to ground-based communications that will leverage intelligent router solutions.

"We don't believe there's one connectivity solution that fulfills all passenger, crew and aircraft operational needs," said Timm. "We're using various connectivity types such as Wi-Fi®, cellular and satellite communications together with an intelligent router that brings improved connectivity."



1 ***Flight Deck*** — Pilots responsible for the safe transportation of their passengers and crew need to remain connected to their respective airlines or fixed base operators, as well as Air Traffic Control, to receive flight-specific information (e.g., updated weather and security-related material). Pilots also need connectivity in the flight deck to ensure appropriate regulatory information is communicated, and to receive dispatch and operational adjustments such as rerouting and gate or scheduling changes.

2 ***Cabin*** — Passengers traveling with Wi-Fi enabled smartphones, laptops and tablet computers want to remain connected in the air the same way they are on the ground. Whether traveling in a commercial airliner or a business jet, passengers want to watch movies, listen to music, browse the Internet, send text messages, check email and connect to their companies for video conferencing.

3 ***Maintenance*** — Aircraft maintenance operations personnel require connectivity to keep the aircraft in peak operating condition. Connectivity allows for the identification and transmission of maintenance reports while the airplane is en route, ensuring crews are prepared to address any issues when the aircraft lands. Today's highly digitized aircraft systems also require maintenance personnel to upload changes to multiple databases (i.e., navigation, synthetic vision, terrain awareness). ▪

Considerations

Three parameters are considered when examining the type of connectivity solutions needed:

1. Coverage — What is the desired coverage area? If coverage is needed in flight, does it need to occur over oceans or will coverage over land suffice?

2. Speed — What's the speed required? This is dependent upon the type of communication that might occur in the flight deck, the amount of communication (e.g., text messages and emails) in the cabin, and the size of the databases maintenance is required to upload.

3. Cost — What type of communication is needed (e.g., air to ground, Wi-Fi, satellite)? For example, uploading large maintenance databases is more cost effective if done via Wi-Fi on the ground versus in-flight satellite communications, which are more costly.

Empowering flight

Light jet and turboprop pilots now are able to experience the power of Pro Line Fusion® avionics.

Inside the new Pro Line Fusion® Customer Experience Room, pilots are witnessing how flying can be easier and, most importantly, safer in light jets and turboprops.

"Our announcement that we're applying Pro Line Fusion to entry-level business aircraft flight decks has generated a lot of buzz," explained Steve Miller, a principal engineering manager for the Pro Line Fusion Embedded Display System, while giving a tour of the new room in Cedar Rapids, Iowa. "We're bringing all the capability – all the power – of our most advanced avionics to lighter aircraft."

First introduced for larger business jets in 2007, Pro Line Fusion was developed for scalability. According to Miller, Rockwell Collins now plans to expand Pro Line Fusion to the full range of business aircraft.

"We developed this powerful software for larger business jets, and it only makes sense that we would bring it to the lighter end of the market," he explained. "Because Pro Line Fusion functionality is primarily software based, we can apply the same functionality to smaller aircraft using a different hardware architecture."

The Pro Line Fusion Customer Experience Room, opened in November 2011, is a space where customer groups and other visitors can get a feel for flying a light jet or turboprop with Pro Line Fusion. Rockwell Collins employees Steve Miller, Joel Conrad and Adam Evanschwartz (left to right) are pictured in the new room.

Focused on safety

Size aside, many times one of the most visible differences between large business jets and lighter aircraft like turboprops is the number of pilots in the cockpit.

"Smaller aircraft are often flown with a single pilot, whereas larger aircraft require two," said Joel Conrad, a programs manager for the Pro Line Fusion Embedded Display System. "With this latest application of Pro Line Fusion, we've focused on reducing pilot workload while improving safety, whether there are one or two pilots."

To do that, Rockwell Collins introduced a number of new capabilities – such as the HGS-3500 compact Head-Up Display (HUD) with Synthetic Vision, autonomous backup and touch-control flight displays – to help pilots better manage, monitor and master flights.

The HGS-3500 compact HUD eliminates the need to continually transition from head-down instruments to a head-up, out-the-window view. While HUDs are a staple in many larger aircraft, the HGS-3500 is the first to fit in the cockpit of a light jet or turboprop. Additionally, the Synthetic Vision system integrates a terrain database with real-time flight information to create a view that provides better situational awareness.

Should an emergency occur, autonomous backup enables pilots to place an aircraft in a safe holding pattern, and a dual engine-out mode provides a prefiltered list of nearest airports and flight guidance cues to the runway.

"The most powerful tool in any cockpit is the human brain that occupies it," said Conrad. "Autonomous backup is a good tool for a bad situation, and we believe it could help save lives."

The unveiling of Pro Line Fusion's latest features began in April 2011 and culminated in October, when

>>>

Rockwell Collins announced that the advanced avionics system would be available as a retrofit for Hawker Beechcraft's King Air turboprop. While the compact HUD and autonomous backup mode are future functionalities, the touch-control flight displays will be part of the first retrofit in late 2013.

Trendy yet valuable

According to Conrad, the touchscreen capability mirrors a trend in consumer electronics that is showing up everywhere from smartphones to tablet computers.

"Why wouldn't it become part of our industry?" said Conrad. "It's a natural and simple way to interact with avionics."

Geoff Shapiro, a senior systems engineer in Flight Deck User Interfaces, believes touchscreens will increase safety and efficiency in the cockpit.

"Pilots need to have their eyes forward as much as possible," said Shapiro, who helped define the requirements for the touchscreen interface. "Because pilots can directly interact with the system, the touchscreen interface cuts some tasks down to one-third of the time – which means pilots can keep their eyes on the sky."

In addition to allowing more direct execution of tasks, the touch-control flight displays have icons that help eliminate potential language barriers, a feature that will help sell Pro Line Fusion globally.

Learning from feedback

Over the past few years, Commercial Systems teams have been surveying customers and working with pilot advisory groups to better understand market needs. According to Adam Evanschwartz, a principal business development manager in Commercial Systems Marketing, the latest application of Pro Line Fusion was developed based on that research.

"When you have the right product, customers will pull for it," said Evanschwartz. "The launch of Pro Line Fusion for light aircraft is competitive from a size, weight, power and functionality perspective – all of which are important to our customers."

Feedback will continue to be important as the Pro Line Fusion product line evolves and, now with the Customer Experience Room, it will be easier to solicit feedback and observe how pilots interact with the system. In just the first month since the room's completion, nearly 10 customer groups have made visits to try out the touchscreen capabilities and experience the compact HUD on the demonstration rig.

"This is extremely valuable in understanding what pilots want, what works for them, and what doesn't," said Miller. "The great thing about a software-based system is that we can continue to develop new capabilities that empower pilots. In order to do that successfully, we have to know what's important to our customers." ▪

By Katie Shatzer

Senior Systems Engineer Geoff Shapiro, a human factors expert, helped define the touchscreen requirements that ensured the touch-control displays are intuitive for pilots.

Built to touch

Pro Line Fusion's latest features include the industry's first touch-control flight displays, but light jets and turboprops aren't the first places Rockwell Collins has used touchscreen to create a more intuitive user interface. Other solutions with touchscreen capabilities include:

1 Venue™ cabin management system – The high-definition galley and in-seat touchscreens provide users with the controls to manage the system's entertainment, data and environmental capabilities.

2 iForce™ – Officers using the iForce integrated public safety vehicle solution can operate any of their electronics using the touchscreen display. As a result, much of the electronic hardware is removed from the front of the vehicle, creating a much safer and more efficient work environment for patrol officers.

3 Micro Defense Advanced GPS Receiver (MicroDAGR) – With this wrist watch-sized Global Positioning System (GPS) device, warfighters can access real-time position, navigation, moving map and timing information on a full-color touchscreen display.

4 PAVES™ 3 – The in-seat touchscreen interface for single-aisle aircraft makes it easy for passengers to scroll from one application to another in the in-flight entertainment system.

5 Electronic flight bags – In 2008, Rockwell Collins received a contract to provide "electronic flight bags" for Airbus' A320, including touchscreen capability. These tablet computers replace pages of paper navigation charts in the cockpit.

The Head Down Display Center (HDDC) in Cedar Rapids, Iowa, has an important role in maturing touchscreen capabilities. In the aerospace and defense industry, touch-screens need to be ruggedized to withstand extreme environmental conditions – one reason touchscreen capabilities are not as common in our industry as the consumer electronics marketplace. Yet, as more people get used to touchscreen on smartphones and tablet computers, expectations are changing.

"Touchscreen is becoming the natural interface," explained Joe Tchon, senior engineering manager in the HDDC. "It's going to take some time, but I think we're going to see an evolution in our industry when it comes to touchscreen capabilities." ▪

Both Tim Carson (left) and Phil Stickland's career paths draw upon their experiences in the U.S. and U.K. militaries, respectively.

A different mission

For many military veteran employees, experience plays an important role in the civilian workplace.

It was a Friday when Phil Stickland finished more than 10 years of service in the United Kingdom's Royal Air Force (RAF). The following Monday, he started his first day of work at Rockwell Collins in Reading, U.K.

"I was hired as an aircraft technician, which was what I did in the military working on Chinook CH-47 helicopters," said Stickland, who started at our company 21 years ago. "For the first few years at Rockwell Collins, I was happy to have a stable job. Then, I started chasing things – pushing myself to advance my career."

Within the first 10 years of his career at our company, Stickland accepted increasing levels of responsibility as he moved to different parts of the Reading Service Center. At one point, his role included leading 40 technicians. Then, in 2004, he became involved in SAP software go-live projects at facilities in Reading; Toulouse, France; Heidelberg, Germany; and Salt Lake City, Utah. Today, he is living in the United States, working as a senior Lean Electronics specialist for International and Service Solutions.

"I'm one of many veterans who've stayed at Rockwell Collins for years because there's a lot of opportunity here," said Stickland.

Transferrable skills

While Stickland's story at Rockwell Collins began with work similar to what he did in the RAF, the transition out of the military into the civilian workforce isn't always easy.

According to Tim Carson, diversity program manager at our company, veterans often face the challenge of finding new ways to apply skills in civilian jobs that they acquired in the military, or helping employers recognize those skills are transferrable. With a national focus on high unemployment among veterans in the U.S., Rockwell Collins is developing an enhanced strategy for recruiting, hiring and retaining veterans throughout the enterprise.

"Even though we are doing less hiring this year, engaging external organizations and building strategic partnerships will help us grow a robust pipeline of military veteran employees for the future," said Carson, a former sergeant in the U.S. Army's 82nd Airborne Division. "We recognize that military experience can be just as important as other qualifications."

Lifelong influence

For many military veteran employees, experience plays an important role in career development. Stickland said his experience in the military taught him important qualities – such as confidence, discipline, flexibility, teamwork and organizational skills – that helped him advance his career in the civilian workplace.

"My military experience was over 20 years ago, but it continues to influence my career," he explained. "For example, looking at processes to make them more efficient is something I started doing in the military. We didn't call it 'Lean,' but we did a lot of standard work. We always had a plan to follow, and looked for ways to make it better.

"Whether you're a veteran or not, different experiences add to our workplaces," Stickland continued. "I think all employees have experienced situations that are worth learning from." ▪

By Katie Shatzer

Traveling bag

Fifty-five years ago, employees at our company started a contest during the annual shutdown. Stickers that read, "Hi, I'm from Collins" were distributed, and employees were encouraged to wear them while traveling. The two employees who met at the most distant point were then awarded a prize.

Earlier this year, the idea was resurrected with a modern twist. Employees began submitting photos to post on the Rockwell Collins Facebook® page of them visiting places around the world with a green Rockwell Collins bag.

Kay Chor "Andy" Lim, a senior customer service engineer from our facility in Singapore, is one of the employees who submitted a photo. When he boarded the new Boeing 787 Dreamliner in Japan recently, he made sure to bring along a green Rockwell Collins bag.

To view more green bag photos from around the world, visit www.facebook.com/rockwellcollins.

Service anniversaries

Rockwell Collins offers congratulations to employees who have marked significant service award milestones in recent months.

50 YEARS

OCTOBER
David R. Treneman

45 YEARS

OCTOBER
Karen K. Inge
Connie W. Taylor

NOVEMBER
Nancy A. Asenbrener
Arlen L. Bantz
Kathleen C. Faurote
Ronald L. McGrath

DECEMBER
E. D. Anderman
Juergen Breunung

40 YEARS

DECEMBER
Anna M. Gordon

35 YEARS

OCTOBER
Patrick Beaugendre
Bessie J. Bemer
Eric A. Berg
Donald G. Fifer, Jr.
Gerald L. Funke
Danny F. Harrison
Colette M. Janisch
Maurice J. Kenter, Jr.
Scott A. Kusich
Madonna E. Mueller
Bettina Rietz
Candice L. Roberg
Curt A. Rupe
Carole J. Stephen
Larae A. Wagner

NOVEMBER
Nelson G. Borden
Debbie J. Carraway
Klaus Eberhard
David H. Haley
Gerhard Kirsch
Jacques Lanciaux
Fred L. Levarity
Becky L. Marx
Kenneth W. Mc Elreath
Diana L. Weihe

DECEMBER
Richard D. Dykema
William G. Helf
Randy G. Mellus
Randall P. Moyer
Beckie R. Petersen
Diane K. Porter

30 YEARS

OCTOBER
Ann M. Conner
Renita V. Cooks
Ron A. Greenley
Sandra J. Herebia
Willinda Hunter
Karen S. Johnson
Thomas D. Johnson
William H. Ransom
Lom Sayasane
Michael D. Schmidt
Thomas P. Skowyra
Lonnie R. Voeller

NOVEMBER
Robin L. Bradshaw
Annette M. Evenson
Gerard Ferrero
Mohammad R. Ghaffari-Rafi
Daniel D. Goodrich
Jennifer L. Hageman
Regis Hormiere
Eric A. Hunter
Ronald W. Johnson
Shawn Kathol
Jin Liang Lim
Cheryl A. Lovato
Bonnie L. Martin
Kevin N. Monahan
David P. Mosbaugh
Jeffrey R. Ristrom
Wendy M. Roney
Roxanne L. Smith
Wayne P. Standish
Billy R. Woodward

DECEMBER
Judy K. Doty
James T. DuBose
Charlotte D. Gott
Nelson G. Guadalupe
Ronald G. Hines
Gerald E. Holt
Chris M. Peacock
Jeanne A. Pullin
Robert H. Sprague
Robert E. Stockwell
Frank T. Vyhnal

25 YEARS

OCTOBER
Elizabeth A. Benesch
Mark A. Bortz
Mary D. Broghammer
Kimberly S. Cole
Kent M. Esser
Michael Feigenbutz
Kelly J. Halverson
Joy L. Hoffman
Gary R. Huntsman
Scott B. Lindley
Carol A. Loecke
Frank Lutz
Didier Marchetti
Scot A. Marling
Tommie E. McRae
Michael A. Miller
Sherri L. Noonan
Andreas Oberst
Hubert Olivier
Dean A. Richmond
Bradley T. Sleep
David S. Spiekermeier

CELEBRATING 45 YEARS

Connie W. Taylor

Start date: October 1966

Original department: Machine Assembly Department

Current position: Senior Engineering Lab Assistant, Systems Applications Labs in Richardson, Texas

What advice do you have for new employees? Smile, have a great attitude, and learn all you can – it goes a long way in life.

NOVEMBER
Robert W. Baity
Terri R. Beasmore
Michael B. Beatty
Mary E. Boeckenstedt
Michael W. Daly
Cynthia A. Downs
Warwick R. Duncan
Cindy J. Goldammer
David L. Green
Nancy A. Hermsen
Mark A. Hocraffer
Jeffery L. Kirk
Dwayne L. Koch
James W. Koury
Edward A. Langer
Linda J. Messer

Michael J. Miller
Sue M. Miner
Susan L. Mortimer
Donna M. Noggle
Larry D. Olson
Donna R. Patton
Gerilyn E. Paxton
Sally A. Pray
Paul C. Schmidt
Renee Smith
Perry A. Smith
Sandra S. Tuttle
Connie L. Valdez
Gail K. Williams
Susan K. Willie
David J. Wolter

DECEMBER
Bruce L. Barton
Debra L. Bernier
Kevin L. Fischer
Sara J. Fitzpatrick
Mary K. Flickinger
Nicholas P. Gibbs
John A. Hemesath
Janet C. Jackson
John G. Kraemer
Gregory D. Reynolds

Janet L. Rodgers
Nancy M. Shellady
Cecil R. Slach
Robert C. Still
Kathy R. Wood
Jami M. Yoder

20 YEARS

OCTOBER
Vincent Albouy
Steve Bernhardt
Barbara J. Ferdinand
Patrice Jonquieres
Sarah A. Malin-Craft
Eric D. Mann
Roy Mattai
Matthew E. Pahl
Alan J. Prowse
Andreas H. Salomon
Lyle F. Schellenberg
Cindy L. Sheets
Marcia K. Snider
William G. Tollefson
George G. Wang
Thomas K. Yeoman

NOVEMBER
Clotilde Enel Rehel

CELEBRATING 45 YEARS

Ron McGrath

Start date: November 1966

Original position: Manufacturing Assembler

Current position: Principal Contracts Manager in Government Systems International Contracts in Cedar Rapids, Iowa

What is your proudest accomplishment at Rockwell Collins? I would say my proudest accomplishment was that my various managers/leadership had enough confidence in me that I could go from an assembly line worker, through 14 other jobs within the company, to negotiating multi-million dollar international contracts.

Richard L. Hemminger
Janet S. Kleeberger
Phillip R. Koenig
Juergen Lang
Johnny L. Lucas
Lawrence M. Martyniuk
Andrew A. Mohr
Karen L. Pisney
Edward M. Rodts
Laurence Santin
Robert K. Schultze
Pascal Soubre
Mario Steigleder
Cindy L. Wachendorf

DECEMBER
William F. Dodrill
Phillip L. Ellery
James S. Hulse
Elizabeth A. Pagano
Maribeth Shanley
Dolores D. Washburn

15 YEARS

OCTOBER
Eric J. Aubrecht
Christophe Aymard
Brian W. Becker
Michael P. Brownsberger
Mark L. Callender
Angela S. Chang
Mary K. Clark
Marie-Christine Dordain
John Q. Dudley
Joseph B. Evans
Toni R. Frisbie
Peter S. Grose
Steven L. Herington
Brenda M. Hobbs
James R. Ickes
Timothy M. Kane
Daniel W. Kauffman, Jr.
Bradley K. Knight
Terry W. Korsmo
Rita M. Kress
Ana Rosa Leon Rivas
Ian R. Lewis
Aurora Lopez Avila
Gregory K. Ostberg
Bradley M. Owens
Michael J. Penny
Patricia J. Rogers Engelby
Paul L. Seaton

CELEBRATING 35 YEARS

Fred Lester Levarity

Start date: November 1976

Original position: Production Control Expediter (Specialist)

Current position: Production Control Manager in Melbourne, Fla.

What advice do you have for new employees? Whatever your role and/or responsibility may be, let it be something you enjoy doing, and do it to the best of your ability.

Chris L. Semerau
Stephen J. Timm
Svein Tokatlian
David R. Tomash
Jean M. Waite
Patrick J. Welsh

NOVEMBER
Rosa Maria Abril Orantes
Annette C. Allison
Stephanie S. Bails
Jody L. Boge
Sergio Eduardo Castro Ramirez
Scott L. Chamberlain
Terri A. Ciemnoczolowski
Randy V. Cimprich
Manuel Fernando Cruz Sotelo
Douglas B. Current
Brian C. Denny
Patrick J. Dierks
Lester D. Donnan
John K. Fordice
Steven J. Galvin
Marty W. Gehl
Mark A. Goedecke
Roger L. Graham
Carlos Alfonso Guardado Diaz
Christopher L. Havenridge
Mary E. Heins
Joel D. Hendrickson
Nicole R. Heyd
Curtis L. Hudson

Russell L. Jacobs
Daniel R. Johnson
Steve K. Kadera
Boris V. Konstantinopolsky
Steven W. Kramer
Davina M. Lagrand
Raymond L. Liss
Michael J. Marks
Jamie L. Michels
Curtis J. Miyoken
Eduardo Polcayo Castillo
Micheal I. Polucha
Rosa Judith Rodriguez Yanez
James M. Russo
Thomas W. Schamberger
Russell F. Shroyer
Carlos Alonso Soto Bejarano
Brad M. Stapley
David D. Sullivan
Vu H. Truong
Ursula G. Virgin

DECEMBER
Kimberly A. Blair
Christopher L. Byler
Christina M. Conway
Roberto N. Cormack
Eileen H. Creelman
Christopher T. Evans
William I. Faler
Paul T. Gibbs
Dennis R. Happel
David J. Hartwig

Lisa J. Hepke
Cuong Hoang
Forrest J. Leveille
Maria Dolores Macias Guzman
John A. Maguire
Jeffrey S. Main
Susan R. Margheim
Margaret E. McDonald
Gary D. McFeron
David J. Nachtmann
Michael T. Nurre
Gregory L. Shelton
Terri M. Sinn
Ronald T. Stanton
Andrew J. Sturt
Mark A. Thompson
Dana A. Whittenbaugh
Joseph A. Woodburn

10 YEARS

OCTOBER
Barry M. Abzug
Douglas C. Anderson
Michael Berberich
Eric Bertrand
Michelle L. Bovinet
Roger G. Davies
Stephen De Angioletti
Daniel P. Dillon
Paul I. Ferris
James W. Fisher
Jason W. Gruber
Michelle L. Heineman
Debra A. Jenkins
Robert C. Knox, Jr.
William B. Ledbetter
Mark D. MacDonald
Larry C. Mann
Guy V. Mattinson
Rory P. Mitchell
Joel H. Nelson
Joseph M. Paricka
Jerzy K. Richter
Anna N. Stepanova
Miguel P. Vasquez
Deann M. Zenor

NOVEMBER
Simon M. Blacker
Paul M. Coe
Vladimir Courtois
Andrew M. Day
Kenneth B. Gaines
Sonja Harth

Darryl L. High
Vaughn M. Klopfenstein
Michael J. Knight
Anthony J. Kriege
Nadja Langenecker
Sandra J. Leuer
Jennifer S. Lincoln
Philip D. Litzel
Roland Lorenz
Debra L. McDowell
Mathieu Nedelec
Eric M. O'Halloran
Wendy A. O'Toole
Donald J. Perchard
John R. Pownall
Klaus Schoppe
Andrey Shushkin
Mark G. VanCleef
Wendy M. Williams

DECEMBER
Rufino P. Andrade
Hiroki Asano
Werner Bade
Richard C. Brown
Sebastien Bruyeres
John W. Burgart
Simon J. Clark
William E. Doerfler II
Markus Ehinger
Peter A. Fillery
Amit Francis
Amanda A. Green
John C. Hale, Jr.
Celine Herrero
Ernest E. Hofer
Sean M. Krause
Vincent A. Loschiavo
Shawn M. Mason
Jack L. McDaniel
Mohammad A. Mohammadian
Janet L. Oldfather
Lori A. Pugh
Gina M. Reyes
Paul R. Richards
Tim Siem

5 YEARS

OCTOBER
Marisol M. Aguilar
Derek A. Altenburg
Donna Kay K. Archer
Mark H. Baken
James R. Baker
Mark D. Beer
Eric M. Berger

Neeta S. Bhandarkar
Shalini Bhushan
Lynn E. Boldt
Beau A. Brink
Ricky A. Brown
Kurt M. Bruhnke
Shawn E. Bruner
Ryan L. Bunge
Brian S. Cain
Bruno C. Chabrier
Patricia L. Collins
Amanda S. Cooper
Jennifer M. Cornwell
Randall E. Crist
Jonathan W. Crossley
Diane F. Daley-Dobson
Radu E. Denghel
Kiran Kumar Devaram
Joseph T. DeView
Alan W. Dolbeer
Matthew J. Edwards
Christina C. Elwood Gehrke
Erika Enroth
Michael A. Espinoza
Papa Boubacar Fall
Mark S. Fischer
Harold D. Gardiner
Mark E. Gilpin
Daniel A. Glasser
Steven A. Golay

Bruce A. Gross
Joseph P. Hansen
Timothy J. Hicks
Charles G. Hollaway
Audrey L. Howes
Jazz L. Husmann
Anson C. James
Matthew R. Jangelis
Loic Jausseme
Michael S. Jones, Jr.
David D. Juby
Ronald A. Jurick
Daniel R. Karr
Austin K. Kelling
Michael E. Kennedy
Steven M. Kepford
Lisa A. Kirkley
Jaclyn M. Klimek
Heather A. Kness
Jennifer L. Lamson
Daniel Leon
Jenny J. Lin
Geoffrey A. Lohff
Joseph D. Luteran
Sean A. Mahrt
Rachel T. Mane
Frederic Massat
Tricia D. McCabe
Mark A. McCormick
Michelle H. McMillan
Nirali M. Mehta
John C. Millet
Brittany D. Mitchell

CELEBRATING 35 YEARS

Rich Dykema

Start date: December 1976

Original department: General Aviation Test Services – Calibration and Repair

Current position: Commercial Systems Senior Software Quality Engineer in Cedar Rapids, Iowa

What is your favorite aspect of your current position? Working with company policies and procedures, and helping engineering teams maintain compliance to produce a high-quality product.

James F. Nachman
Pavan S. Omtri
Diana C. Ortiz
Lynda G. Paddock
Lucas C. Pestka
Lisa M. Pippin
Cynthia Poisson
Joseph E. Powell
Mark A. Radabaugh
John C. Reddersen
Ursula Roeth
Christopher M. Salee
Carmen C. Sanchez
Timothy M. Schoenfelder
Andrew H. Schrodemier
Eleonora V. Serra
Bradley L. Shanahan, Jr.
Roger Silva
Sushma Simha
Patrick S. Skros
Clayton E. Smith
Ian M. Steer
David C. Thatcher
Maricela M. Toscano
Evy Tran
Aaron M. Trantham
Stephenie K. Tupa
Dennis A. Turkington
Wolfgang Unger
Marjorie D. Waye
Timothy L. Wesbrook
Michael D. Wiethorn
Joseph C. Williams
Tiffany D. Williamson
John F. Yandell
Raymond Zanoni
Katherine A. Ziskovsky

NOVEMBER
Steven D. Allen
Mohamed Bentahar
Andrea M. Birdsall
Sushma M. Bockhorst
Terry J. Bouska
William R. Brown II
Jerry L. Buchheit
Yasha L. Buchler
Amy M. Burg
Declan A. Campbell
Gregg F. Carter
Gwendolyn S. Cornwell

Deloise J. Danzy
Olga Alicia De La Cruz Bejarano
George A. Deprez
Chris L. Donley
Martin G. Eastham

Katie Knowles
David C. Krueger
Sherri F. Kubik
Robert D. Larsen
William T. Lazenby
Yen T. Le

CELEBRATING 35 YEARS

Randy Moyer

Start date: December 1976

Original position: Quality Control Engineer in Quality Control Engineering

Current position: Principal Test Equipment Engineer in Government Systems Test Engineering in Cedar Rapids, Iowa

What is your proudest accomplishment at Rockwell Collins? Being able to go out to the factory and see one of my projects still being used to test product years later.

Michelle D. Frieden
Robert L. Garcia
Timothy J. Garner
Allen J. Gavin
Thomas D. Gentner
Carolynn D. Gesling
James D. Greis
Karen A. Gross
Laurent Guillot
Gilles Guiu
Noland D. Gurwell
Philipp Hackenberg
Rory R. Hale
Robert W. Hartney
Nathan W. Hill
Ralf Huelswitt
Cindy K. Ingles
Thierry Isnard
Daniel Jakobi
Marion Jarman
Christopher Joest
Gareth M. Jones
Ahmad F. Kashmola
Stephen C. Kettman
Benjamin A. Kilburg
Leon J. Klarenbeek

Mitchell S. Leonard
Kok Kheng Lim
Benjamin P. Loeschke
Ben T. Ludington
Paul A. Marshall
Randall L. Marzen
Gerald J. Meder
Joe N. Mendoza
Scott L. Miller
Allyn H. Nay
Long T. Nguyen
Thomas H. Paige
Thomas D. Parker
Raelene A. Parker
Pasquale A. Passanisi
Benjamin L. Pickering
Jeffrey S. Prater
Richard A. Pulido
Alex Pullan
Tammy S. Quade
Larry L. Rexford
Rob P. Scott
Nathaniel P. Sellin
Joseph W. Shearer

Peeter W. A. Soot
Richard A. Stanek
AJ R. Sunder
Sandra K. Swore-McCright
Diane X. Tan
Dominic Transier
Lisa J. Trosky
Marcy A. Wamre
Kathleen A. Warnke
Douglas E. Weiland
Jared G. Wendel
Laura A. Wessels
Gavin C. Whiting
Hyung J. Yoon

DECEMBER

Mehdi Achour
Anthony K. Baccam
Donald M. Bashus
Daniel L. Becker
David L. Biddick
Timothy E. Blake
Christopher S. Bolger
Jason E. Branly
Larry A. Brown
Lincoln J. Burns
Michael B. Bylund
Josiane Caradec
Deana L. Clissold
Darren D. Cofer
Dan K. Darrington
Brent G. Davis
Rebecca A. DeWyke
Marc H. Doolittle
Dean M. Dory
Troy D. Driscoll
Lloyd E. Elmore
Jaouad Ezzahraoui
Vivian N. Fernandes
Tammy C. Gardner
Brett L. Gengler
Boris Goranovic
Jacy A. Haefke
Ivan Hernandez Rios
Blair E. Ivall
John P. Johnson II
Cheryl A. Kamman
Keith F. Kongslie
Tommy Y. Lee
Alex Mason
Brian J. Matt
Brian P. McClanahan
Michael P. McCollum
Jennifer Memery
DeAnn C. Moser
Christopher M. Newark
Hong S. Ngo
Raymond E. Osbon
Senthilkumar Rajagopal
Hans E. Ruge
Barton C. Schneck
Catherine M. Schwake
Thomas M. Simon
Jonathon C. Skarphol
Lucas B. Smith
Joel W. Sommer
Ryan J. Spaman
Charles W. Spittle
Brett A. Sternberg
Anita J. Strouf
Robert A. Teller
Gavin D. Umbdenstock
Aurelie Urvoy
Binh Van
Robert D. Walstrom
Allen M. Webb
Brian A. Williamson
Robert S. Wolterman
Brian K. Wonnacott

Retirees

Rockwell Collins offers congratulations and best wishes to the following employees, who have recently announced their retirements.

Jane L. Aegerter
Newhall, Iowa

Wanda J. Andrews
Cedar Rapids, Iowa

Modesto D. Bernardino
Baldwin Park, Calif.

Marcie J. Bishop
Cedar Rapids, Iowa

Carol M. Boehm
Williamson, N.Y.

Kenneth W. Boselly
Tracy, Calif.

Julie L. Bowers
Toddville, Iowa

Peggy L. Brake
Cedar Rapids, Iowa

John D. Burris
Mission Viejo, Calif.

Thomas R. Cobb
Anamosa, Iowa

Michael W. Cofer
Dewey, Ariz.

James A. Davey
Sunnyvale, Calif.

Susan J. Dergo
Marion, Iowa

Eduardo Diego
Tustin, Calif.

Elwin E. Dillon
Palm Bay, Fla.

Neil F. Dobson
Garland, Texas

Timothy P. Dorgan
Marion, Iowa

David E. Erusha
Cedar Rapids, Iowa

Wendy E. Forrester
Palo, Iowa

Steven G. Freilinger
Central City, Iowa

Jerome H. Geers
Marion, Iowa

Cindy J. Goldammer
Homestead, Iowa

Sandra L. Grant
Palo, Iowa

Mattie Hainsworth
Scottsdale, Ariz.

Mary B. Haley
Cedar Rapids, Iowa

Jack R. Harris
Johnston, Iowa

Dianna K. Hitchcock
Leesburg, Fla.

Dung M. Hoang
San Jose, Calif.

Marilyn C. Kettmann
Bellevue, Iowa

Gordon W. Kinney
McKinney, Texas

Joe Leyva
Chino Hills, Calif.

Ismael H. Marquez
Santa Ana, Calif.

Nancy J. Miller
Melbourne Beach, Fla.

Susan F. Murdoch
Sunnyvale, Calif.

Bryan D. Nelson
Albany, Ore.

Steven D. Ness
Cedar Rapids, Iowa

David D. O'Brien
Murphy, Texas

Elias H. Orta
Tustin, Calif.

Walter J. Parker
Spanaway, Wash.

Maurita A. Penn
Marion, Iowa

Dale W. Penner
Cedar Rapids, Iowa

Christine M. Perez
Viola, Iowa

Nam V. Phu
Anaheim, Calif.

Michael D. Schmidt
Cedar Rapids, Iowa

Vijay M. Sethna
Fremont, Calif.

Robert J. Sharek
Satellite Beach, Fla.

Timothy R. Siefer
Marion, Iowa

Judy K. Skow
Marion, Iowa

Michael L. Smith
Doniphan, Mo.

Richard S. Stokoe
Anaheim, Calif.

Glenn A. Tarvis
Huntington Beach, Calif.

William S. Thai
San Jose, Calif.

Bao Thai
San Jose, Calif.

Ellen Warren
Santa Ana, Calif.

Philip A. White
Marion, Iowa

Judith A. Wink
Manchester, Iowa

Dean A. Winterowd
Cedar Rapids, Iowa

Ruben P. Young
Cypress, Calif.

In memoriam

Rockwell Collins offers condolences to the families and friends of the following employees and retirees, whose deaths were recently reported.

Laik Alikhan*
Altadena, Calif.
Oct. 9, 2011

Petronilo M. Almazan*
Brentwood, Calif.
Sept. 12, 2011

Vinzenz Begus*
Austria
Sept. 6, 2011

Nancy Bell*
Florence, Ky.
Aug. 12, 2011

Jennifer M. Cornwell
Edgewood, Iowa
Sept. 23, 2011

John A. Davenport
Melbourne, Fla.
October 4, 2011

Randal R. DeKlotz
Cedar Rapids, Iowa
October 6, 2011

James D. Fields*
Richwood, Ohio
Nov. 7, 2011

Loraine Frank*
Hendersonville, N.C.
Oct. 9, 2011

Leroy Garner, Jr.*
Benbrook, Texas
Aug. 25, 2011

Robert L. Grace*
Ottumwa, Iowa
Sept. 3, 2011

Gary J. Haberkorn*
Marion, Iowa
Oct. 30, 2011

John Henshaw, Jr.*
Cedar Rapids, Iowa
Sept. 24, 2011

Ronald H. Humphrey*
Phoenix, Ariz.
Aug. 22, 2011

Keithel V. Keene*
Newark, Ohio
Aug. 17, 2011

Jack L. Maxwell*
Dresden, Ohio
Aug. 12, 2011

Benjamin J. McKnight*
Valparaiso, Fla.
Oct. 12, 2011

Garrett J. Michael*
Cedar Rapids, Iowa
Aug. 24, 2011

Marie H. Nunes*
Morgan Hill, Calif.
July 14, 2011

Eric F. Peerenboom*
Portland, Ore.
Sept. 25, 2011

Danny Penzellna
New Haven, Conn.
September 4, 2011

Le Roy T. Troxler*
Santa Ana, Calif.
Sept. 11, 2011

Sharon K. Walker*
Springville, Iowa
Aug. 29, 2011

**retiree*

Every day, military personnel worldwide count on Rockwell Collins to provide the technology UAVs require to effectively operate in manned and unmanned airspace. From advanced flight control, navigation, communication, and sensor systems to a worldwide support network, we provide the critical solutions the military needs to successfully complete its missions. To learn more, visit rockwellcollins.com.

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