

Rockwell
Collins

horizons

*Harnessing
the power
of aviation's information age*



Innovating for the aviation information age



A big topic of conversation in our industry right now centers on managing and optimizing the massive volume of data and other information generated throughout the aviation ecosphere.

I'm proud to say Rockwell Collins is a leader in this discussion. We have expertise in information-enabled flight decks and cabin systems, network connectivity solutions, ground infrastructure and integration capabilities.

So as you'll read in the cover story in this issue of *Horizons*, "Harnessing the power of aviation's information age," Rockwell Collins is now in a great position to provide seamless and secure information pathways that deliver the right data to our customers exactly when they need it.

Today, the solutions we're offering our customers enhance air travel efficiency, comfort and safety — from planning and executing a trip and maintaining aircraft systems, to keeping passengers engaged and enabling greater situational awareness on the flight deck. As technology evolves, we'll only be limited by our imaginations in continuing to design and provide innovative products and services that go beyond our customers' expectations.

Enjoy reading how Rockwell Collins is innovating for the aviation information age and helping transform the world. ■

A stylized, handwritten signature in black ink that reads "Kelly".

Kelly Ortberg
CEO and President

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On the cover

Rockwell Collins is poised to provide the full connectivity value chain across the aviation ecosystem.



On the back

This ad highlights our leadership position in providing solutions that unlock the full potential of aviation information.





Jamie Johnson, principal systems engineer, tests the Pro Line Fusion® Engine Indication and Crew Alerting Systems (EICAS) for the Bombardier CSeries regional jet.

Pro Line Fusion® takes off

After years of investment and research and development, Pro Line Fusion® is flying on multiple platforms in multiple markets.

Since he was a young boy, Jamie Johnson has always had a fascination with airplanes. He clearly recalls how easy it was to maneuver and fly his model planes with just the touch of a remote control.

Today, the principal systems engineer based in Cedar Rapids, Iowa, helps bring new levels of efficiency and control to pilots flying multi-million dollar airplanes.

Since joining Rockwell Collins in 1997, Johnson has been a part of the Pro Line Avionics team, specifically working with the Engine Indication and Crew Alerting

System (EICAS). Over the years, he's watched the product line, originally launched in 1975, develop and transform into its most recent generation — the Pro Line Fusion® Integrated Flight Deck.

“When I started, I didn’t imagine that I’d be working on a product that is so innovative and adaptive,” said Johnson, who is currently working on our Pro Line Fusion avionics for Bombardier’s CSeries commercial aircraft which is expected to enter service in 2016. “The excitement generated by Pro Line Fusion’s potential is what makes me look forward to coming to work each day.”

Pro Line Fusion platform wins



2007

Bombardier
Global 5000
business jet

Bombardier
Global 6000
business jet

Mitsubishi MRJ
regional jet

2008

Embraer
Legacy 450
business jet

Embraer
Legacy 500
business jet

Gulfstream G280
business jet

Since the beginning in 2005, the vision for Pro Line Fusion has included unprecedented levels of situational awareness; the industry's first synthetic vision system on a head-up display; information enablement to improve operational efficiencies; and an architecture that would enable it to adapt to multiple platforms in multiple markets.

Johnson said it's been fun to watch it take off — literally.

Rockwell Collins' Pro Line Fusion integrated avionics system has been selected for 17 aircraft platforms including business jet, air transport, tilt-rotor and military flight decks. It's even been flight-tested as an unmanned aerial system. More than 300 Pro Line Fusion flight decks have been delivered since 2012. And, to date, customers around the world have flown the system more than 150,000 flight hours on multiple platforms that have entered into service including Bombardier's Global series and Embraer's Legacy 500 business jets.

In addition, deliveries of Beechcraft King Air turboprops from Textron Aviation — featuring our latest version of Pro Line Fusion — are expected to begin this year.

In the spotlight

"It was a really special moment," said Adam Evanschwartz, director for Business & Regional Marketing in Cedar Rapids, as he recalled walking through the 2015 European

Business Aviation Convention and Exhibition (EBACE) in Geneva, Switzerland, in May. He realized that Rockwell Collins and Pro Line Fusion were the talk of the show.

EBACE is where our company officially announced that new production King Air turboprops will feature Pro Line Fusion and commercial aviation's first touchscreen primary flight displays. Previously, it was announced as a retrofit on the aircraft.

"Touchscreen was a big move, and there were some people who were a bit skeptical when we introduced it in 2011," added Evanschwartz. "But we've seen great responses from customers and Federal Aviation Agency representatives as they've experienced it in flight."

This Pro Line Fusion flight deck will be on all new King Air 350i, 250 and C90GTx airplanes, which Textron believes will only improve the flying experience for its customers.

"The Pro Line Fusion flight deck enhances situational awareness and brings the simplicity of icon-based activity while minimizing traditional menus," said Christi Tannahill, senior vice president, Turboprop Aircraft and Interior Design for Textron Aviation. "Whether you are a single pilot owner-operator commuting between business locations, running a special mission operation, or flying as a corporate crew,



Adam Evanschwartz



you benefit from the ease of operation and resulting confidence in your flight.”

The King Air win is just one example of how Rockwell Collins continues to innovate and adapt this technology. And not for just commercial platforms, but for government platforms, as well.

On a mission

One of Chad Williams’ responsibilities is to work with engineers on adapting commercial applications of Pro Line Fusion for government customers. It’s a task he admits hasn’t always been easy.

“The challenge is that our military customers want the civil-certified pedigree of a product like Pro Line Fusion, but they don’t want to lose their military mission capabilities,” said Williams, a principal project manager for Next Generation Products in Cedar Rapids. “Adapting this technology for military aircraft involves extensive collaboration with our peers in Commercial Systems, as well as direct communication with our customers to understand their needs.”

As a result of this collaboration, the Pro Line Fusion avionics being developed for Embraer’s KC-390 tanker-transport, AugustaWestland’s AW609 TiltRotor and other Government Systems customers is largely based off Commercial Systems solutions, said Williams.

A big focus recently in Government Systems has been on adapting the hardware and software for the rotary wing aircraft market. This has required engineers to continue to innovate and adapt Pro Line Fusion to handle helicopter vibrations; provide helicopter-specific display symbology and functions; adapt the situational awareness

to fly at lower altitudes; and introduce additional flight management services to include helicopter approaches, heliports and helipads.

Rockwell Collins debuted Pro Line Fusion for the commercial helicopter market earlier this year. In addition, our company, along with Airbus Helicopters and Vector Aerospace, entered into an agreement in June to jointly develop and market Pro Line Fusion integrated avionics solutions to upgrade Airbus Helicopters’ platforms. The first upgrade implementation is expected in 2016.

What’s next?

Matt Carrico, senior engineering manager in Advanced Concepts and a Rockwell Collins Technical Fellow in Cedar Rapids, was among the engineers involved in the development of Pro Line Fusion. And while he admits it feels great to see it working as it was envisioned — being scaled to work on multiple platforms in multiple markets — he knows there’s still a lot of work left to do.

“The demand for a product to have great features and be easy to use never goes away,” said Carrico. “No matter how successful Pro Line Fusion is, we always have to be thinking of ways to make it more intuitive for pilots.”

One of the areas Carrico knows will continue to grow in popularity is touch-user interfaces. In a world where people are spending hours a day on smartphones and tablets, that same kind of functionality is now desired in the cockpit. And while touchscreens are integrated into smaller displays for the King Air turboprops, they haven’t been incorporated into platforms with large displays, yet.

“The issue we find is that cockpits are getting larger, and pilots have to be able to easily reach and interact

Pro Line Fusion platform wins



2013	2014	2015				
Piaggio MPA multi-role patrol aircraft	Avic MA-700 regional airliner	Airbus AS332/532 MK1 helicopters cockpit upgrades	King Air C90GTx turboprop	King Air 250 turboprop	King Air 350i turboprop	



with the displays. And that presents a challenge,” said Carrico.

He added that connected aircraft and airspace also are driving much of today’s innovation. Teams in Advanced Concepts are working to find better ways to enable pilots to easily and securely transfer information from their electronic devices into the flight deck so they don’t have to manually reprogram the flight plan. Advances in network connectivity also will enable Rockwell Collins to better leverage the work of our Information Management Services business by making it easier for pilots to get in-flight updates such as airspace status, weather, airport conditions and runway closures.

But when it comes to identifying and executing new features for Pro Line Fusion, we also listen to the customer.

“We regularly run pilot advisory groups at Rockwell Collins, and we’re also invited to participate in groups organized by the aircraft manufacturers we work with,”

added Carrico. “Those are such valuable sources of information for us because we hear straight from the pilots about the features they want in the future.”

Carrico believes Pro Line Fusion will continue to evolve along with our customers’ expectations and enable Rockwell Collins to maintain our innovative edge in an increasingly competitive avionics market well into the future. And with approximately 75 percent of our investment in this technology complete and an estimated 90 percent of revenue ahead, Pro Line Fusion plays an important role in accelerating our growth.

And as Jamie Johnson continues to log hours on the CSeries Pro Line Fusion rig in preparation for the platform’s entry into service, he’s looking forward to the next Pro Line Fusion innovation.

“I keep model planes in my office of all the aircraft that I’ve worked on,” said Johnson. “I look forward to adding another one very soon.” ■

By Megan Strader

Much of the success of Pro Line Fusion® in government markets is credited to collaboration with Commercial Systems. Chad Williams, (front right) principal project manager for Next Generation Products, leads meetings with teams from Government Systems and Commercial Systems to discuss Pro Line Fusion pursuit strategies.



A video demonstrating Pro Line Fusion avionics featuring touchscreen primary flight displays is available at www.youtube.com/watch?v=jwUdYwlyWlw.



Harnessing the power of aviation's information age

Engineers in Annapolis, Maryland, developed an Inmarsat SwiftBroadband satellite interface to our ARINC aviation communications network. Pictured here are (from left) Debbie Graves, Suzanne Cullen, Scott Malone, Bill Phillips, Keith Cingel and Fiza Chaudhry.

Rockwell Collins is innovating seamless, optimized and secure connectivity solutions for enhanced safety and efficiency.

From Annapolis, Maryland, a team of engineers is regularly monitoring our ARINC aviation communications network system performance on a Hawaiian Airlines commercial aircraft. Engineers are watching the system performance when the aircraft flies in oceanic airspace.

It's part of a key safety trial with Hawaiian Airlines and the Federal Aviation Administration. The purpose is to evaluate the latest generation of Inmarsat's SwiftBroadband (SBB) satellite communications technology in the cockpit, according to Scott Malone, director of ARINC GLOBALinkSM engineering. The new variant of SBB enables voice, Aircraft Communications Addressing and Reporting System (ACARS) and Future Air Navigation System (FANS) data transmissions.

ACARS enables exchange of messages between the aircraft and entities like Air Operational Control and Air Traffic Services. FANS is a subset of ACARS messaging used for communications between the pilot and air traffic control in oceanic airspace.

"Over the past couple of years, we have been developing the gateway to interface our ground-to-air communications network before we brought it online with the Inmarsat system," said Malone. "For the industry, getting SwiftBroadband connectivity into the cockpit is a big step. And we're the first to do a safety service trial with a commercial airline."

In addition to gaining a faster, broader information path to transmit ACARS/FANS data, the high bandwidth Inmarsat SBB can drive timely, graphical weather information to a tablet device. With a more complete weather picture, flight crews — in conjunction with air traffic control and the airline — can make better-informed decisions whether or not to reroute the aircraft due to turbulence and poor weather conditions.

This is just one example of how technology is evolving and advancing in the midst of the aviation industry's information age. And Rockwell Collins is in a unique position to develop innovative applications and services to harness the power of that data.

Optimizing data

While information is critical to the safe and efficient operation of the aviation industry, the volume of that data is massive. Today's new information-enabled airplanes are gathering and generating much more data than their predecessors. It comes from critical flight deck avionics systems and from cabin systems that keep passengers informed, entertained and connected, according to Kent Statler, executive vice president and chief operating officer of Commercial Systems.

"In the flight decks alone, next generation Boeing 787 and 777X aircraft produce ten times the amount of information compared to the previous generation 767. And the same thing can be said of the Airbus A350 compared to the A330," said Statler.

As we look to the future of the aerospace industry, the operative words are more and faster. By 2030, an estimated 80 percent of the expected 85,000 active air transport and business aircraft will be equipped with information-enabled systems.

Meanwhile, leading-edge innovations are creating faster air and ground networks and more streamlined airline and airport operations.

Rockwell Collins is a long-time industry leader in flight deck information management systems, such as our Pro Line Fusion® integrated avionics.

In 2013, we acquired ARINC, a leader in global air-to-ground and ground-to-ground networks. That brought us another step closer to achieving our vision of providing the full connectivity value chain for airlines and business aircraft operators, according to Jeff Standerski, senior vice president of Information Management Services.

"We have flight deck and cabin systems, network connectivity solutions, ground infrastructure and integration expertise," said Standerski. "Our focus going forward is to create additional value for our commercial and business aviation customers by providing them with the right information, at the right time, and in the right form. And to deliver it all securely. We'll do that by innovating applications and services that enhance safety and efficiency and engage passengers."

Standerski pointed to our ARINC MultiLinkSM flight tracking service that is now being evaluated by nine airlines around the world. Instead of relying on a single data source, our solution merges multiple data sources already in use, including our high frequency (HF) data-link network.

As a result, this service can reliably report the location of an aircraft anywhere in the world — even in remote regions and over oceans.

These evaluations will be completed soon, and we expect to begin offering ARINC MultiLink to our customers this fall.

The aviation information age also is transforming the operations of today's airports. Rockwell Collins offers information management solutions to help improve airport processes while managing operational costs. One such technology is our integrated biometrics solutions designed to streamline passenger processing.

"Our focus going forward is to create additional value...by providing the right information, at the right time, and in the right form. And to deliver it all securely."

Jeff Standerski, senior vice president, Information Management Services

The suite of self-service solutions integrates our ARINC vMUSE™ and ARINC VeriPax™ passenger processing capabilities with an industry-leading provider of biometric technology. A traveler's identity is captured using biometrics — such as an iris scan, fingerprint or facial recognition — and our system matches it with the passenger's passport and boarding pass information. Airports will be able to securely automate every step from check-in to boarding the airplane, improving passenger flow.

Secure connectivity

Information passed between ground-to-ground and air-to-ground systems offers great potential for efficiency and safety enhancements. However, concerns remain about the integrity and security of that data.

Rockwell Collins has an industry advantage in providing secure information management solutions. In the aircraft, for instance, our commercial avionics teams work hand in hand with Government Systems (GS) colleagues who develop mission-critical, military grade security protocols for government aircraft.

Linda Peyton, senior director of Avionics Products Engineering and a Rockwell Collins Technical Fellow in Cedar Rapids, leads a team of engineers who are focused on information security in commercial avionics. The team includes

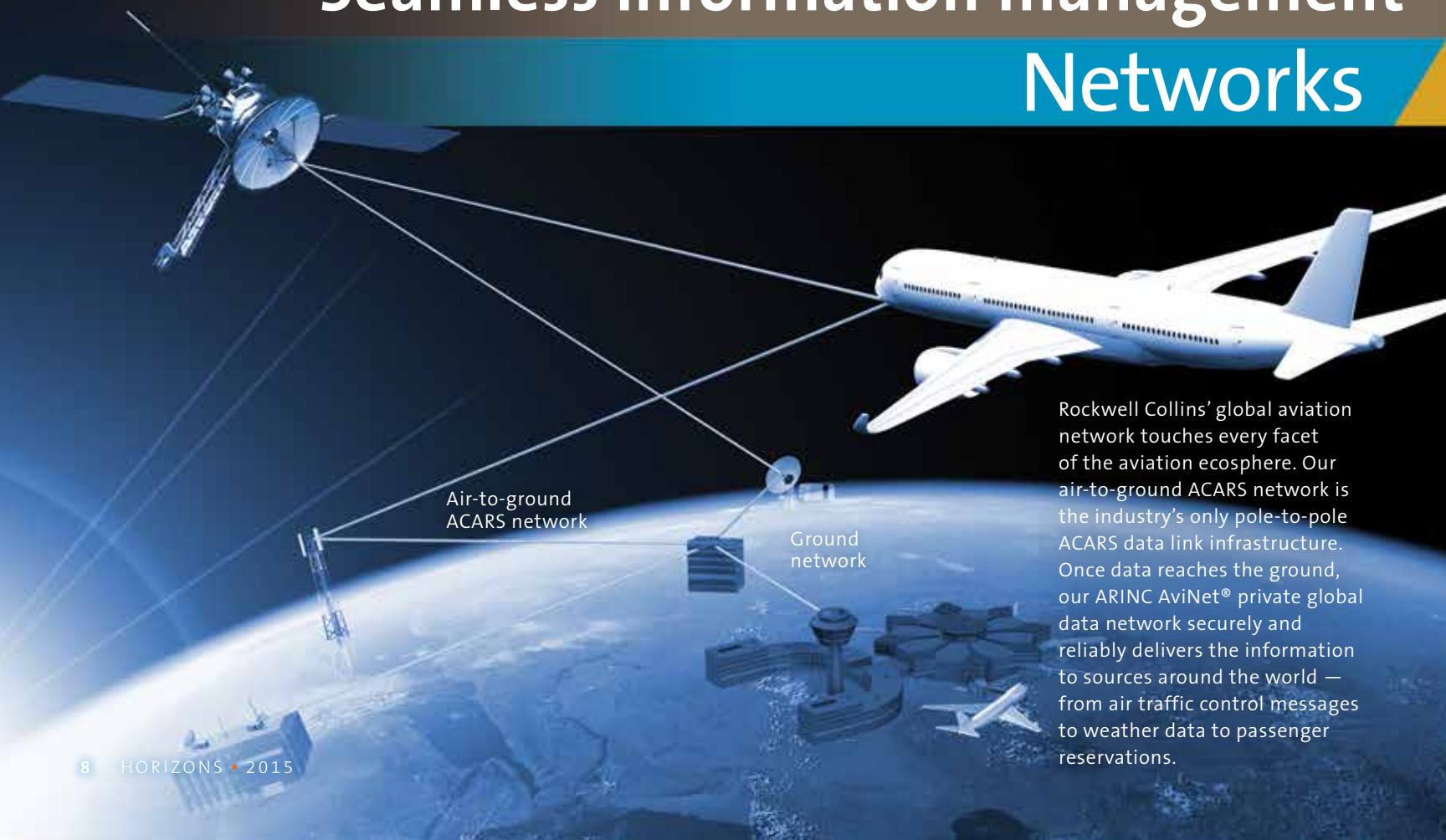
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Unlocking the full potential of aviation information



On the flight deck, our information-enabled communication, navigation, surveillance and display systems — including our Head-up Guidance System with enhanced vision system and MultiScan ThreatTrack™ weather radar — help get planes to their destinations safely and efficiently. In the cabin, our portfolio of solutions, including PAVES™ in-flight entertainment systems, engage and empower passengers.

Aircraft Seamless information management Networks



Rockwell Collins' global aviation network touches every facet of the aviation ecosphere. Our air-to-ground ACARS network is the industry's only pole-to-pole ACARS data link infrastructure. Once data reaches the ground, our ARINC AviNet® private global data network securely and reliably delivers the information to sources around the world — from air traffic control messages to weather data to passenger reservations.



Rockwell Collins' voice and data network seamlessly and securely transmits critical information between the airline back office, aircraft, ticketing systems and more. Airlines and manufacturers use our networks to monitor and measure performance of today's information-enabled aircraft systems, reducing unplanned aircraft-on-ground issues.

Airlines across the aviation ecosphere Airports



Our solutions seamlessly integrate systems to optimally move and manage information for air traffic control, airport operations, passenger processing and airport communications.

engineers with GS information assurance knowledge, as well as those with expertise in information technology and networking.

“We’re developing new technologies that enable improved security in embedded systems in avionics. And we’re identifying future security enhancements,” said Peyton.

For instance, engineers recently evaluated data separation technologies applied to airborne networks to provide assured integrity and confidentiality across flight deck interfaces.

According to John Borghese, vice president of the Advanced Technology Center (ATC), secure guards and gateway technology developed in ATC also are adapted for commercial use.

Borghese cited the example of the AAMP7 microprocessor developed for safety applications in aircraft flight control systems. The AAMP7 is accredited at Evaluation Assurance Level 7 — the highest safety grade assigned to an information technology product or system following a common criteria security evaluation. It’s the only microprocessor in the world to have that level of accreditation.

“We’ve adapted it for use in many of our Government Systems products,” said Borghese. “And we’re using this hardware technology for commercial applications, most recently in a large air transport avionics system.”

Ongoing knowledge and research collaboration across the enterprise also can provide opportunities to leverage Rockwell Collins’ secure commercial networks and technologies for the government market as well, according

to Simon Tudge, senior director of Business and Strategy Development in Annapolis.

“We see opportunities to create custom solutions for head of state and VIP aircraft,” said Tudge. “We can combine the power and flexibility of our Venue™ cabin management system with the security of our military-grade command and control infrastructures and the reliability and impenetrability of our global network services to create value-added solutions for these customers.”

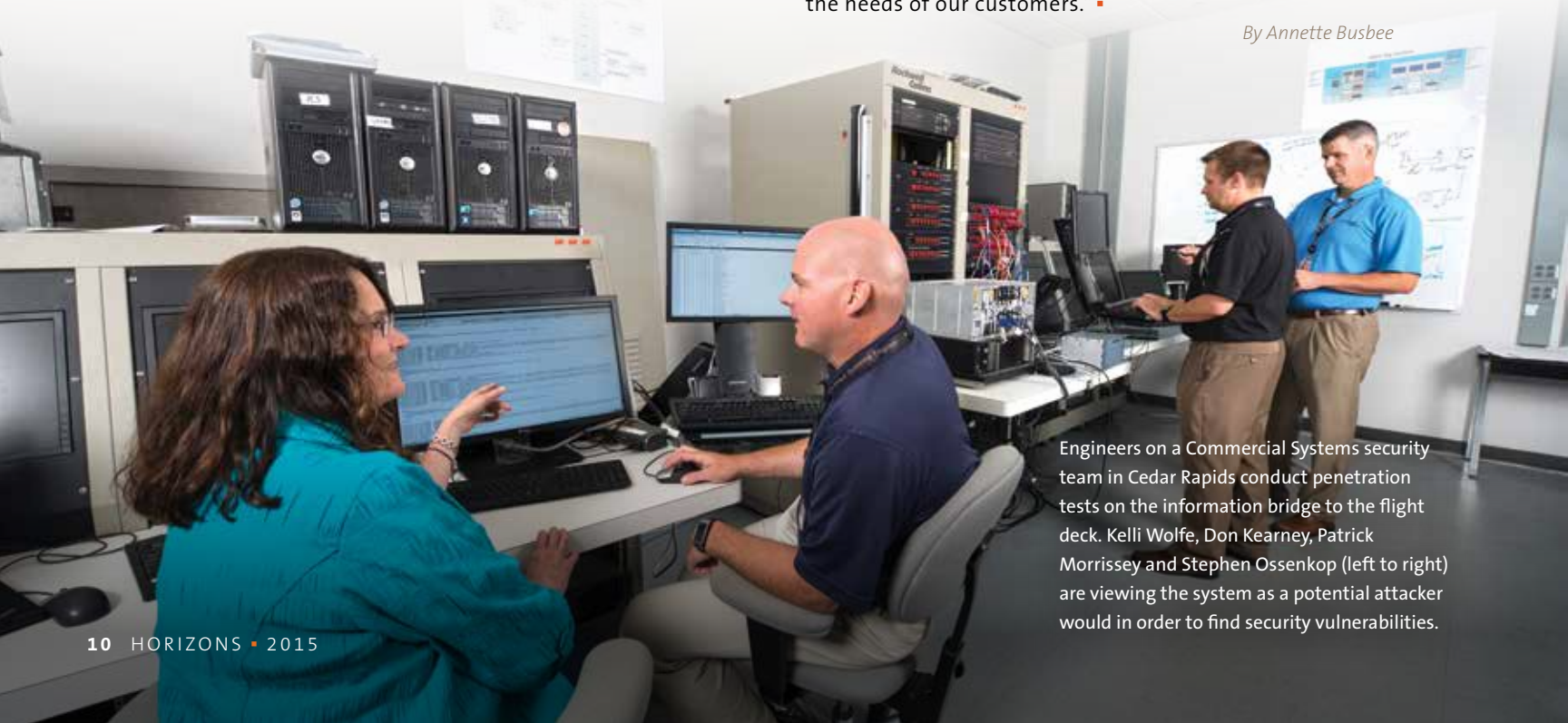
Growing market

Standerski and Statler believe the amount and value of data generated in the aviation industry will only continue to expand. And they say Rockwell Collins’ skills and solutions match up well with this huge market opportunity.

“We have the aircraft solutions that enable information management and connectivity services, and we’ll continue to make the necessary investments in systems and services to create a robust portfolio for our customers,” said Standerski. “This is the natural next space for us to realize our vision of providing seamless end-to-end solutions.”

“We have the building blocks,” added Statler. “Over the next few years we’ll continue enabling the aircraft with information management solutions and expanding the broadband data capacity. Once the integration of these capabilities is complete, we’ll continue to grow our applications and services that meet and exceed the needs of our customers.” ■

By Annette Busbee



Engineers on a Commercial Systems security team in Cedar Rapids conduct penetration tests on the information bridge to the flight deck. Kelli Wolfe, Don Kearney, Patrick Morrissey and Stephen Ossenkop (left to right) are viewing the system as a potential attacker would in order to find security vulnerabilities.

Exceptional achievement

Five Rockwell Collins engineers are named to the 2015 class of Technical Fellows.



Our second class of Rockwell Collins Technical Fellows poses with CEO and President Kelly Ortberg. They are (from left) Bob Foote, James West, (Ortberg), Ken Zimmerman, Linda Peyton and Vlad Gavrillets.

To be a Rockwell Collins Technical Fellow means an engineer is setting the standard for technical excellence. Five engineers recently were named Technical Fellows for outstanding accomplishments in their respective fields.

They are Bob Foote, Vlad Gavrillets, Linda Peyton, James West and Ken Zimmerman. They join the 25 engineers named Technical Fellows in last year's inaugural class.

According to Matt Carrico, who was a member of that first class and is a senior engineering manager in Advanced Concepts, this honor is about more than having a title or award.

"It's an engineering position that plays an important role," said Carrico. "It's expected that you will be a mentor and inspire the next generation of engineers."

Technical Fellows also advise our leaders on technology trends as well as potential strategies to respond to competitive threats and technological, regulatory, and customer opportunities, according to Nan Mattai, senior vice president of Engineering and Information Technology.

"These individuals are consistently recognized as leaders who deliver innovation both inside and outside Rockwell Collins in ways that are instrumental to our growth and continued competitiveness," said Mattai. ■

By Elizabeth Wagner

Our new Technical Fellows

Bob Foote is a principal systems engineer in Vision Augmentation Systems in Cedar Rapids. His most distinctive technical contribution was leading the design and development of all major fixed wing fighter Helmet Mounted Displays (HMD) fielded by our company during the last 20 years.

Vlad Gavrillets is a senior engineering manager in Flight Control and Navigation in Warrenton, Virginia. His patents and publications in the areas of flight dynamics, flight control and sensor fusion have attracted more than 950 citations. He also demonstrated the world's first autonomous aerobatic helicopter.

Linda Peyton is senior director of Avionics Products Engineering in Cedar Rapids. She has broad experience in government and commercial avionics technologies and was among the early pioneers in GPS receiver software and security design at Rockwell Collins.

James West is a principal electrical engineer in Transmitter Technology in Cedar Rapids. He is an enterprise-level antenna technology subject matter expert and leader and has been working in this field for nearly 30 years. He created our Advanced Technology Center's antenna research and development group and antenna lab.

Ken Zimmerman is a principal systems engineer in Head-up Guidance Systems (HGS™) Engineering in Wilsonville, Oregon. He has been responsible for identifying and developing the key operational, safety and certification aspects of essentially every new feature added to our HGS products during the past 30 years.

Mission to Mars

A Rockwell Collins engineer might soon realize her life-long dream to be a space explorer.

The much anticipated conversation between Laura Smith-Velazquez and her husband, Matthew Velazquez, was raw with emotion. Both teary-eyed and somewhat anxious about what lie ahead, the couple — married just four years — talked about whether they could still make their dreams come true. Could they still share their lives even if one of them...was living on Mars?

"It's not every day you talk with your spouse about taking a one-way trip to Mars," admitted the 39-year-old Smith-Velazquez, a human factors and systems engineer in the Rockwell Collins Advanced Technology Center. "But Matthew knows I've wanted to be an astronaut since I was 8 years old. He knows how passionate I am about science."

In February, Smith-Velazquez — who works in Columbia, Maryland — became one of 100 finalists selected to proceed to the next round of the Mars One astronaut selection process. Founded in 2011, Mars One is a not-for-profit foundation based in the Netherlands with the goal of establishing a permanent human settlement on Mars.

More than 200,000 people from around the world — including Smith-Velazquez's husband — applied for

the Mars One program. The list of 100 will ultimately be narrowed to 50 and then 24 finalists by the fall of 2016.

The first unmanned mission will be a demonstration to ensure the technologies work correctly and to launch a communication satellite in Mars' orbit. It's scheduled to depart in 2020. A four-person crew is scheduled to begin the one-way journey to the red planet in 2026, and subsequent crews are scheduled to leave Earth every 26 months thereafter.

Family passion for science

For Smith-Velazquez, the journey to places unknown began in the small Midwestern community of Dorr Township, Michigan. Born with an innate sense of curiosity, Smith-Velazquez was about 3 years old the first time she disassembled her parents' stereo. At age 5, she fell in love with the American



Mars settlers will spend their time exploring the Martian surface, doing experiments, construction work and farming. They will reside in

Living Units that will be set in place by the Rovers and filled with breathable air by the Life Support Unit prior to arrival of the astronauts.

science fiction TV series, “Star Trek.” In fact, “Star Trek” and science-related TV shows “NOVA” and “National Geographic” were the only programs permitted in the Smith household.

“We watched “Star Trek” as a family, and I always wanted to go on the five-year missions they flew to galaxies to find life on other planets,” recalled Smith-Velazquez. “When my parents gave me a telescope for Christmas, that sealed the deal. I was 8 years old, and I knew right then I wanted to be an astronaut.”

Smith-Velazquez credits her father, Paul Smith, for instilling in her his love of science and psychology as well as his thirst for knowledge. He attended college later in life and earned anthropology and behavioral science degrees.

“Dad used to take me out on digs, and I spent a lot of time hanging out with him in the anthropology lab at Grand Valley State University,” said Smith-Velazquez. “While most girls were dressing their dolls and playing with Barbies, I was helping my dad excavate a mastodon and dressing the skeleton in a lab coat.”

Smith-Velazquez also grew up with posters and maps of Mars covering her bedroom walls. So it’s no wonder that 25-plus years later she is excited about the chance to live, work and survive the rest of her life on a planet that is about 140 million miles from Earth.

“The mission to Mars is very different from a normal space mission where you come back to Earth,” said Smith-Velazquez, noting the one-way trip will take an estimated 260 days. “Mars One is about a vision — a vision of advancing technology and us, as humans, exploring and living on another planet.”

Facing the unknowns

Since qualifying for NASA’s astronaut program a decade ago, Smith-Velazquez has been regularly

applying with hopes of one day realizing her dream. Today, she is closer than ever and, while she admits she will be disappointed if not selected as one of the 24 finalists for Mars One, she says the experience has been beyond anything she could have imagined.

But Smith-Velazquez also fully understands the risks that come with this mission. During the spaceflight, the crew must be protected from exposure to solar flare radiation. Once on Mars, average summer temperatures in the mid-latitudes are about 32 degrees Fahrenheit during the day, dropping to around -58 degrees at night. Dust storms can be a half-mile high and last a month. However, she insists she’s not afraid.

“Without question, there are many unknowns about this mission,” she said. “But everyday life can be challenging. I’ll face these challenges with the determination to resolve them.”

Because Mars One is a non-profit organization, much of the funding will come from investors and crowdsourcing. The third round of the selection process will include group challenges during which participants are judged on how well they can live and work together as a team to solve the myriad of problems they might face on Mars.

If Smith-Velazquez does make it to the final round, Rockwell Collins employees around the world will likely have an opportunity to help determine her fate. The final selection phase is currently planned to be broadcast in a reality TV format — something about which Smith-Velazquez is less than enthused. That said, she will continue doing whatever it takes to make her dream come true.

“How many times in your life do you get a chance to make an impact on the world?” asked Smith-Velazquez. “When I think about the amazing contribution and the ability to evolve technology and evolve us as a species — I just can’t imagine how awesome it would be.” ■

By Jill Wojciechowski

A row of white Mars landers on a reddish-brown surface. The landers are connected by a tube, and a small rover is visible in the foreground. The background shows a hazy, orange-tinted sky.

Mars settlers will rely on the Life Support Unit that is connected to the Living Unit by a tube that feeds oxygen, nitrogen and argon to create a habitable atmosphere. The Life Support Unit also will be in charge of the water purification and removal of waste gas (carbon dioxide) from the Living Unit atmosphere.

Staying on course in space

Rockwell Collins' TELDIX® Space Wheels keep unmanned spacecraft on the right trajectory.

Four of these space wheels, designed and developed at our facility in Heidelberg, Germany, were key in navigating NASA's Messenger spacecraft to Mercury.

On April 29, 2015, NASA's Messenger spacecraft completed the first-ever probe of the planet Mercury. The successful four-year mission in Mercury's orbit ended when — as planned — the spacecraft ran out of fuel and fell to the planet's surface.

Mercury is between 48 and 77 million miles from Earth, depending on the positions of the two planets in their orbits around the sun. It took Messenger nearly seven years to enter Mercury's orbit after flying by Earth, Venus and then Mercury. If on its journey, it had even minutely gone off course, it easily could have been lost in the vacuum of space.

But thanks, in part, to Rockwell Collins' TELDIX® Space Wheels, Messenger was able to successfully reach

its destination and complete its mission. The four space wheels in the spacecraft were designed and manufactured at our facility in Heidelberg, Germany.

These devices are "attitude actuators," essential for satellite navigation and function by maintaining and regulating the direction of the spacecraft, according to Wolfgang Kupferschmitt, director of Space Products in Heidelberg.

"Once a satellite is in orbit, you need to keep its orientation in a certain direction," said Kupferschmitt. "For example, a TV satellite needs to have its antennae pointed at the ground for signal transmission."

Rockwell Collins is capable of producing more than 120 space wheels a year. Most of our customers require a standard "flight deck" of four wheels per satellite, said Artur Redeker, managing director of Rockwell Collins Germany.



“Every three weeks on average, somewhere in the world, a satellite goes up with our wheels,” said Redeker. “Communication satellites are the strongest drivers of our business.”

Quality matters

Because most satellites require multiple wheels, customers are extremely selective in choosing suppliers of space wheels for their unmanned spacecraft — and with good reason. Defective wheels can render the spacecraft inoperable. And once a wheel is in orbit, it can no longer be reattached, repaired or maintained.

“We have a very sensitive product, and that’s why we have strict quality management procedures in place,” said Kupferschmitt. “Because of the knowledge and experience of our employees, we have developed design and manufacturing processes to ensure our wheels perform to the highest standards.”

Space wheels often are designed for a customer’s specific mission needs. As the Messenger spacecraft was orbiting the planet closest to the sun, we had to prove to NASA, via analysis, that our space wheels could survive the extremely intense temperatures and radiation from the sun.

And to demonstrate the life cycle of our product to customers, there’s visual proof at our facility.

“We have wheels that have been running on the ground in life tests for more than 40 years,” noted Kupferschmitt. “In orbit, the standard requirement is a 15-year lifetime. We present this data to customers as an indicator of the quality of our product.”

Rockwell Collins entered the space wheels business in 2006 when TELDIX was acquired. TELDIX was a design and manufacturing company in Heidelberg formed as a result of a joint venture in 1960 between a military aviation supplier and a telephone company. The acquisition gave Rockwell Collins a local presence in Germany, thus increasing our opportunity to win in-country government aviation contracts.

It also came with an established space wheels business. Since 1974, 1,332 space wheels have been installed in 420 satellites. That represents 7,300 years of accumulated orbital operation. Today, the space business accounts for approximately 25 percent of sales at Rockwell Collins Germany.



Design and development of our space wheels includes creating the housing assembly (top) and conducting tests on our wheels and their electronic components (bottom).

A shifting market

A new market segment is opening up for space wheels. A number of companies are planning to establish worldwide broadband internet connectivity service over the next few years.

This type of broadband service will require a vast constellation of hundreds of low-orbiting satellites. As dozens of satellites will launch simultaneously, space wheels will need to be mass produced.

“This is quite different than what we are used to delivering. This is a more commercialized approach,” said Redeker. “The idea behind these satellites is that they will be low-cost, designed with a life cycle of five rather than 15 years and easier to replace.”

That means customers will expect low-cost wheels, he added. The challenge will be to come up with new ideas for a different design to meet these new mission objectives. But, it’s a challenge the team is ready to take on.

“We’re at the top of the list of global suppliers of space wheels when comparing years of orbital operation and experience,” said Redeker. “With our expertise in space, I believe we’ll have an advantage in this market. And we want to be part of the game.” ■

By Nick Hassett

Teaming up for international success

In-country business relationships are key for entry to global markets.

Earlier this year, Rockwell Collins agreed in principle to form a strategic alliance with an Abu Dhabi-based company that will enable us to be part of one of the largest military maintenance, repair and overhaul (MRO) centers in the world.

Under the alliance, Rockwell Collins and Advanced Military Maintenance Repair and Overhaul Center (AMMROC) will provide MRO services and avionics upgrades for a broad range of military aircraft.

Rockwell Collins will provide expertise in avionics MRO and our retrofit business, while AMMROC will offer its state-of-the-art facilities and strong relationships with military customers in the region. Operations are expected to begin in 2016 and will be based out of AMMROC's new facility in Al Ain, United Arab Emirates.

Expanding our business in global markets often requires a business model that is different from those in the markets Rockwell Collins traditionally serves, according to Rich Eisenhart, vice president of Strategy. Forming long-term relationships with local companies is one of those differences.

One benefit from these relationships enables our company to meet legal offset requirements. When we win

business in international countries, offsets require us to buy products or provide services with local companies. Rockwell Collins' alliance with AMMROC enables us to meet our offset requirements in the UAE.

"It also gives us a seat at the table to try to win business with the Mubadala Development Company, a key aerospace and defense asset in the UAE that owns AMMROC," said Eisenhart. "And it positions us to provide our service capabilities not only to the UAE, but to countries in the South Asia, Middle East and North Africa region — all of which are target areas of growth for Rockwell Collins.

Local capabilities wanted

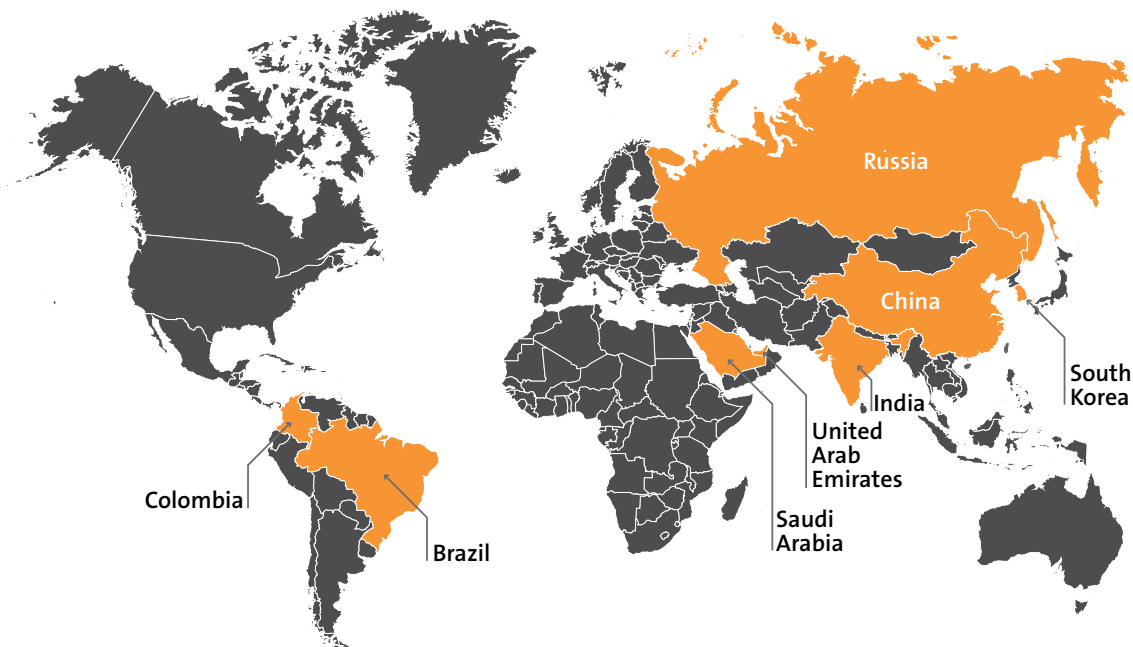
In-country business relationships are necessary for Rockwell Collins to meet our strategic goal of having 50 percent of our revenue come from outside the United States by 2019, according to Colin Mahoney, senior vice president of International and Service Solutions. To date, approximately 44 percent of our revenue comes from international sales.

"We won't be successful reaching this goal if we try to do it all by ourselves," said Mahoney. "Many countries want to create local jobs and grow their



Colin Mahoney, senior vice president of International and Service Solutions, signs a strategic alliance agreement with Fahed Al Shamesi, CEO of Advanced Military Maintenance Repair and Overhaul Center (AMMROC), headquartered in Abu Dhabi, United Arab Emirates.

Strategic business relationships in emerging markets



indigenous capabilities in areas such as manufacturing and engineering. It isn't easy establishing strategic relationships that are meaningful for both parties, but it's part of doing business internationally."

For example, last year the prime minister of India launched a "Make in India" campaign to facilitate international investment, develop local skill sets and enhance the manufacturing infrastructure in that country.

Following the launch, Rockwell Collins signed a Memorandum of Understanding (MoU) with Zen Technologies, based in Hyderabad. The MoU calls for combining the capabilities of the two companies to offer industry-leading simulation and training solutions to Indian military customers. Just four months later at the Aero India 2015 air show, the two companies presented a jointly developed Rotary Wing Simulator.

Mahoney believes this relationship, along with our teaming agreement with TataPower Strategic Engineering Division

to pursue wins in Indian software-defined radio programs, are maturing well. TataPower is one of the largest defense prime contractors in India.

"India has stringent requirements for international companies," he said. "These relationships position us with opportunities to win some big programs."

Benefits to both parties

For business relationships to be successful there must be a value proposition for both parties, said Alan Prowse, vice president and managing director, Americas and Global Services Business Development. Rockwell Collins looks for companies that can provide access to a market, fill a technology gap, provide a funding stream and align with our values. In turn, we offer a broad portfolio of innovative products and services, engineering skills to back our products and manufacturing capability.

"Our approach shouldn't be that they need us more than we need them," said

Commercial Systems

CHINA

- > JV — Rockwell Collins CETC Avionics Co. (communication and navigation systems)
- > JV — ACCEL (Tianjin) Flight Simulation Co. (commercial flight simulation)
- > JV — AVIC Leihua Rockwell Collins Avionics Co. (integrated surveillance system products)
- > MoU — Hubei Ali Jiatia (airline seat maker — seats to feature PAVES™ On-demand IFE)

Information Management Services

SOUTH KOREA

- > MoU — Incheon International Airport Corp. (enhanced passenger processing solutions)

Government Systems

RUSSIA

- > MoU — Transas Aviation (forward-fit and retrofit civil helicopter avionics)

INDIA

- > MoU — Zen Technologies (military flight simulation)
- > Teaming agreement — TataPower Strategic Engineering Division (military software-defined radios)

BRAZIL

- > MoU — Avionics Services (military avionics displays)

Services

CHINA

- > JV — Collins Aviation Maintenance Services Shanghai Limited (commercial aircraft)

SAUDI ARABIA

- > Strategic alliance — Advanced Electronics Co. (military aircraft)

UNITED ARAB EMIRATES

- > Strategic alliance — Advanced Military Maintenance Repair and Overhaul Center (military aircraft)

COLOMBIA

- > Cooperation agreement — Corporacion de la Industria Aeronautic Colombia S.A. (military aircraft)

Prowse. “If a business relationship is one-sided, it’s not going to last very long.”

The type of business arrangement we enter into depends on the particular situation and our business objectives. Agreements can range from a Letter of Intent (LoI) — which is typically non-binding — to a Joint Venture (JV), a binding, detailed agreement that creates a new company, according to Jeff MacLauchlan, senior vice president of Corporate Development.

“We often skip the non-binding agreement step in the United States,” he said. “But it can be an important phase in a number of international business cultures where it’s meaningful to have a document commemorating the parties’ intentions.”

With strategic alliances — like the one Rockwell Collins has with AMMROC — companies agree to take their complementary skills and resources and pursue market opportunities together.

“In JVs, each party’s obligations in forming and operating a new company are firmly established,” said MacLauchlan. “Rockwell Collins has a good framework with processes in place for forming JVs around the world.”

Protecting our Intellectual Property

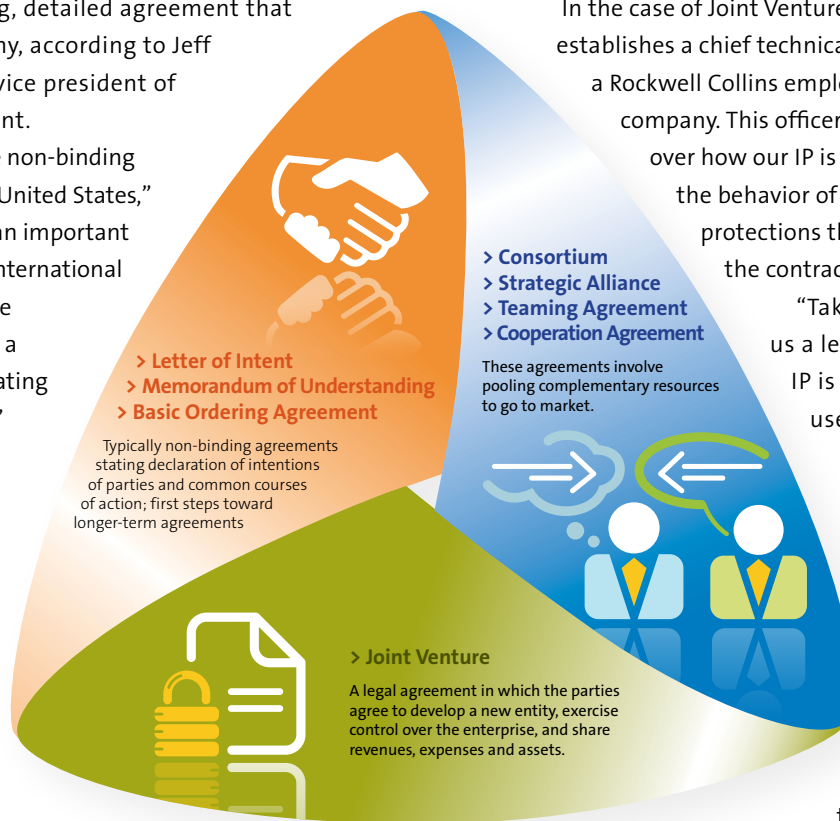
Entering into any new business agreement comes with inherent risks. In many cases, the price of admission for doing business in international markets includes granting licenses to our Intellectual Property (IP) for the manufacture, repair and modification of product components.

Rockwell Collins has approaches and processes in place to protect the company’s IP, according to Bill Elkington, senior director of Intellectual Property Management. One is to provide access only to the Rockwell Collins IP that the other party needs to do its work.

“For example, we might share software source code for a module in a product suite that interfaces with an airplane,” he said. “It would enable a business partner to tailor our product to a particular aircraft, but in the process we keep our other related product IP to ourselves.”

In the case of Joint Ventures, Rockwell Collins establishes a chief technical officer — who is a Rockwell Collins employee — in the new company. This officer has direct control over how our IP is used and monitors the behavior of the JV around the protections that are built into the contract.

“Taking this extra step gives us a level of comfort that our IP is being protected and used as directed,” he said.



Commitment to global growth

Rockwell Collins is on track to meet our goal of 50 percent of revenue coming from outside the United States within the next four years. Our

international sales total more

than \$2 billion and continue to grow by double digits.

Markets our company is focusing on for expansion include the BRIC countries — Brazil, Russia, India and China — along with the UAE, Saudi Arabia and South Korea. The next group of countries we’re looking to for growth opportunities include Colombia, Mexico, Poland and Japan.

Entry into these markets will involve finding and establishing new strategic business relationships, and Mahoney is confident we’ll accomplish that.

“Our global mindset and practices continue to evolve, and I applaud that,” said Mahoney. “We need to stay focused on our mission for international growth. It’s important to accelerating our growth and to our future.” ■

By Annette Busbee



ARINC UrgentLink is the first disaster communications network capable of providing reliable communications coverage, even inside the impacted area.

ARINC UrgentLink™ introduced for disaster communications –

The first national disaster communications network for public safety was unveiled by Rockwell Collins in August. ARINC UrgentLink™ enables first responders and public health, public safety and critical industry officials to communicate with each other when traditional networks are destroyed or damaged.

Natural disasters such as Hurricanes Katrina and Sandy demonstrated the limitations of the current communications infrastructure. ARINC UrgentLink uses Federal Communications Commission (FCC) licensed radio frequencies authorized for disasters and Rockwell Collins' proprietary High Frequency (HF) technology.

Rockwell Collins is part of a Collier award-winning team –

The National Aeronautic Association (NAA) presented aviation's highest honor to the Gulfstream G650 team — which includes Rockwell Collins — during a ceremony in June at Reagan Washington National Airport.

Gulfstream was awarded the 2014 Robert J. Collier Trophy for the “design and development of the G650 business jet family, which strengthened business aviation through significant technological advancements in aircraft performance, cabin comfort and safety.”

Rockwell Collins supplied the G650 with its Head-Up Guidance System (HGS™), the pilot control system and the horizontal stabilizer trim actuator.

Rockwell Collins acquires International Communications Group, Inc. –

Rockwell Collins acquired Newport News, Virginia-based International Communications Group, Inc. (ICG) in August.

ICG is a leading provider of satellite-based global voice and data communication products and services for the aviation industry. Its product portfolio, which includes the latest generation of Iridium® satcom terminals and smart routers, is a highly complementary addition to our flight deck and cabin connectivity offerings.

Event celebrates delivery of the first GEN III F-35 Helmet Mounted Display System –

Delivery of the first GEN III F-35 Helmet Mounted Display System (HMDS) was commemorated during a special event held last month in Cedar Rapids, Iowa.

Rockwell Collins, through its joint venture, Rockwell Collins ESA Vision Systems LLC, is providing advanced technology for warfighters with the F-35 HMDS. It provides pilots with unprecedented levels of situational awareness by displaying critical flight and tactical information on the helmet's visor. It also enables them to “look through” the airframe.

U.S. Sen. Joni Ernst (R-Iowa) and Lockheed Martin and Rockwell Collins executives participated in the event that provided dignitaries and employees with the opportunity to wear an F-35 HMDS and “fly” the Lockheed Martin F-35 Lightning II demonstrator.



Matt Musil, a proposal specialist, wears an F-35 Helmet Mounted Display System during a special event in Cedar Rapids.



Rockwell Collins unveils the new DF-500 for advanced direction finding capabilities – Building on the search and rescue (SAR) mission success of its predecessor, Rockwell Collins has introduced the new DF-500 Direction Finder. The system enables aircraft to receive and immediately locate activated 406 MHz Emergency Position-Indicating Radio Beacon (EPIRB) signals, enabling rescue crews to go directly to people in distress.

The next generation DF-500 direction finder replaces the DF-430 which serves government and military SAR operators in all domains worldwide.

Software-defined radio technology developed for the DF-500 enables higher sensitivity, immunity to interferences and stability of bearing indications.

horizons is going all digital

Dear *Horizons* Readers,

For a number of years, *Horizons* has been delivered to your home or workplace as a print magazine. Going forward, we see a number of advantages in presenting this same information in a digital and more interactive format. So this will be the last print issue of *Horizons*.

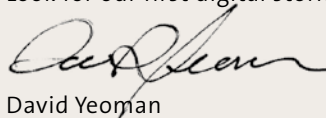
Rest assured, you will still be able to access the same great *Horizons* content you've come to expect — including in-depth stories, infographics and service anniversaries — on Rockwell Collins Online as well as through rockwellcollins.com. And you'll be able to share it with family and friends with just a click of a button.

By serving up individual stories instead of a full magazine, information can be provided in a more timely manner and will always be available at your fingertips

— at work and from home — even on your phone or mobile device. Plus, going digital is good for the environment.

We're excited about the opportunities this new format offers — from engaging photography and videos to interactive graphic illustrations — to celebrate our successes and more easily share the strategic direction of our company.

We hope you enjoy this new approach to *Horizons*. Look for our first digital stories early in FY'16.



David Yeoman
Publisher

Service anniversaries

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

CELEBRATING 50 YEARS

Dixie Dahl

In 1965, Dixie Dahl joined Rockwell Collins as a stockroom clerk.

Fifty years and a number of positions later, Dahl serves as the executive administrative assistant for the Advanced Technology Center in Cedar Rapids, Iowa.

Dahl said she's had great challenges and proud accomplishments at Rockwell Collins. She was an integral part of the formation of the Administrative Effectiveness Team in 1990. And, today, she continues to play a key role in the coordination and execution of the 10X Innovation Fairs and the Rockwell Collins Enterprise-wide Innovation Fairs.



50 YEARS

JUNE

Dixie L. Dahl
Claude L. Howell

JULY
Ronay A. Divis
Hugh (Pat) Guido
Dorance M. Porter

40 YEARS

MAY

Jane T. Bibby
Marta K. Gellerman
Elnora M. Gibson
Debra A. Reiman

JUNE

Edna D. Aigoro-Vasquez
Dale M. Braun
Theodore J. Herbst
John M. Jump
Lora J. Mayland
Debra K. Schutte
Jan E. Treise

JULY

Andrew T. Flach

AUGUST
Roger L. Patterson
Don A. Stulken
Cynthia A. Tippet
Perry J. Tormey

35 YEARS

MAY

Brian K. Cariveau
Jeffrey R. Davis
Sue D. Fleming
Phillip H. Rowe

JUNE

Jeffrey P. Ausman
Dean A. Daniels
Linda C. Dobbs
Gerard Faure
Gregory H. Gemmer
David E. Gray
Chris A. Jameson
Jeffery C. Rambo
Tiera Tinsley
Jerry J. Winter

JULY

Daniel Audibert
Donald J. Barrett
Wanda E. Harris
Lisa M. Keel
Melvin L. Martinez

AUGUST

Barbara J. Bator
Michael D. Cole
Myrna A. Foltz
James A. Giglio
Louis C. Hong
Angelina H. Simkins
Gail M. Smith
Diane M. Wilder

30 YEARS

MAY

Lisa A. Budde
Vickie D. Channell
Clifford R. Clendenen
Eugene E. Eilers
Julia A. Frank
Douglas E. Hancock
David C. Heldt
Laurie A. Hollis
Robert A. Lee

Allan J. Meyer
John E. Mueller III
Daniel F. Patterson
Barbara A. Pederson
Thomas E. Reberry
Mary Ann Schmit
Edward A. St. John
Joseph J. Sullivan
Christopher J. Swanke
Karen M. Thinnest
Catherine S. Wilhelm Mcneal
Rick A. Williams

JUNE

Gary M. Althoff
Donald J. Altschwager
Gary L. Bachman
John R. Bader
Carl L. Barnhart
Jeanne M. Beachler
Richard A. Campbell
Stephen G. Carlson
Ricardo Carrillo Guzman
Jean-Michel Cluzel
John J. Day

Randy D. Dick
Judy L. Drilling
Scott R. Ernst
Claude Eyssautier
Jean-Yves Fournier
Mark B. Godfrey
Terry J. Golubiewski
James N. Hanson
Leslie Hobson
Timothy J. Ingwersen
Nereyda Jackson
Timothy L. Kean
Kevin L. Klimes
David E. Kuelper
Deborah S. Laing
Daniel Loglia
Russell D. Marcus
Kevin M. Maruga
Michael W. Oglesby
Kirk L. Osborn
John L. Persick
Teresa M. Petersen
Linda D. Peyton
Charles A. Popeck
Steven A. Quella
Steve D. Rankin
Joseph G. Razo
Manuel Rivera
Grant M. Rouze
David W. Rowland
Robert A. Schneider II
Charles J. Sitter
Thomas J. Skvor
John H. Sohn
Roger E. Southgate
Paul A. Sowada
Katherine A. Spartz
Charles F. Stone
Monica R. Svoboda
Joseph L. Tchon
Dwayne D. Uphouse
Russell D. Waller
Gregg A. Walt
Donald A. Wehrkamp
Douglas J. Wolfe
James A. Young Jr.
Paul D. Youngwirth

JULY

Charles A. Berns
Terri M. Biansco
Kimera H. Cho
Tina M. Erb
Jeffrey S. Geneser

Juk Kiau Goh
Gregory A. Hallberg
Clayton Harmon
James P. Henderson
John C. Herder
Cris W. Johnson
Rick D. Lafler
Serge Laforest
Andrew M. Le Duc
Aracely Lopez Cerecer
Raymond D. Marsalli
Kim S. Matsunaga
Gary L. Mills
Dennis A. Nelson
Craig E. Nilsen
Dale G. Roberge II
Rock A. Rochford
James L. Rouse
David D. Salwey
Brian A. Sogard
Douglas E. Straub
Kevin M. Westman
Keith E. Woodward
Lisa Yuen
Scott J. Zogg

AUGUST

Ann R. Bell
Azar Ben-David
Carl H. Bode
Daniel Cortez
Richard Dela Cruz
John Dorsey
Brigitte Escales-Cros
Brent A. Foss
Gary Gambarani
David J. Hahn
Curt E. Hancock
Steven J. Henely
Rita F. Jillson
Crystal Jones
Mark L. McEachran
Randi A. Ruzicka
Guadalupe Vazquez
Rodriguez
Lisa S. Wagner

25 YEARS

MAY

Debbie A. Arruda
Scott A. Bergmann
James L. Cook

Eric De Nardin
Brett M. Foley
Stanley M. Garringer
Valerie Herete
Robert J. Heubner
Dominique Holenka
Phillip A. Huedepohl
Dennis E. Hundley II
Thomas J. Martin
David Poltorak
Kenneth B. Rasmussen
Christine Scarborough
Stephen P. Whittlesey
Payge A. Winschel
Scott D. Yarrington

JUNE

Mike A. Aberle
Renee M. Acosta
George Barry III
Jeffery E. Bradshaw
Kathleen Canavan
Daryl J. Capesius
Sylvia S. Dabbs
Michael D. Davidson
Sean P. Delsing
Juanita L. Eiben
Rita M. Elsbernd
Kimm M. Epperson
Phillip E. Griffie
Lawrence Jankiewicz
David H. Jones
Kathy M. Lybarger
Michael R. Martensen
Daniel J. Nemmers
Myra V. Ray
Robert W. Sassenscheid
Thierry Sauce
Christopher Socha
Wee Seng Tay
Steven J. Wiebers

JULY

Thomas B. Campbell
Patrice Cantele
Patricia L. Chapman
Mary E. Culy
Ward A. Daniels
Thierry Fabre
Cheryl L. Foley
Stephane Jaspard

CELEBRATING 50 YEARS

Hugh Padraic "Pat" Guido



For 50 years, Hugh Padraic (Pat) Guido

has provided radio operators at communication centers in New York, New York, and San Francisco, California, with current and accurate procedures.

Guido, a principal analyst for Aviation Voice Services in Annapolis, Maryland, began his career in 1965 as a teletype switching center operator.

One of the greatest challenges and achievements in his career was assisting software engineers with modifying and testing communication center software to support and interface with the new Federal Aviation Administration Oceanic Air Traffic Control Advanced Technology and Oceanic Procedures (ATOP) software.

Veronica E. Jenkins
Ronald G. Keel
Howard G. Knight
Lorraine A. McGuigan
Jeffrey I. Michaelsen
Eric P. Mueller
Jay L. Nicholson
Craig L. Oehlert
Terence O'Keefe
Victor Manuel Olvera Valdez
Vickie A. Ozburn
Stewart J. Rogerson
Kimberlee A. Seiler
David G. Stobb
Regie W. Stroh
Linda A. Thompson
Brian D. VanHeiden
Brad C. Willhite

AUGUST

Guy D. Boyer
Jeffrey J. Cyr
Neal W. Driscoll
Gregory E. Dunn
Devin D. Flottman
Donald J. Greiner
Evan N. Hindman
Wayne A. Knipp
Lisa D. McCann
Reena Parangot
Jeffrey A. Reece
William J. Reynolds
Janice E. Rosauer
Deborah A. Smith
Lorraine M. Twigg

CELEBRATING 50 YEARS

Lenny Howell

Lenny Howell has been part of Rockwell Collins'



mechanical assembly and installation teams for nearly all of his 50 years with the company. He began his career in 1965 as a mechanical assembler and, today, holds the title of senior technical support specialist in our Richardson, Texas, facility.

Howell has had many memorable moments throughout his career including taking part in the installation of the first WSC-6 Antenna on the USS Mount Whitney command ship. Another was being part of the team that removed the navy shipboard satellite communication system from the USS LaSalle to install it on the USS Coronado in Manama, Bahrain.

20 YEARS

MAY

Thomas Brewster
Tara D. Bryson
John Christian
Lonnie V. Curry
Joanne C. Etten
Elyas Farzan-Kashani
Joe C. Freeland
Anthony C. Green
Michael Guerrero
Rakesh K. Gupta
Tony I. Hayes
Ken A. Hecker
Diane L. Henderson
Peter J. Hogan
Robert Hood

Christine E. Dusio
Robert J. Frank
Julie A. Haxmeier
Joseph A. Hnat
Kevin M. Kronfeld
Randy L. McCormick
John W. Owens
Chad D. Patridge
David J. Radack
Tammy M. Reistroffer
Tom A. Roach
Janet R. Smith
David M. Stabile
Arnetta L. Threets
John C. Waterhouse
Elfrieda E. Whitson
Angela M. Wiegand

James H. Kirker
Chad D. Kurth
Mireya Peraza
Montelongo
Steven M. Schaul
Debra A. Schroeder
Linda K. Tumilty
Jenifer M. Walne
Qun Wang
Shih-Yih Young

AUGUST

Richard S. Arlint
Scott A. Beltran
Lawrence C. Creech
Teresa A. Deloy
Sandra S. Dudley
Norma Alicia Duenas
Bermudez
Rosalba Espinoza
Rodriguez
Luciano Gomez
Socorro
Adrian Hernandez
Alejo
Roxie M. Kitson
Wayne A. Kraus
Vinh Q. Le
Lisa A. Lnenicka
Steven
Mark S. McMenamin
Terry L. Miller
Jeanne R.
Montgomery
Brett H. Pflughaupt
Joseph E. Pierce
Michael M. Schura
Julie L. Sieverding
Allan D. Timmerman
Kenneth R. Willis

15 YEARS

MAY

James V. Arbuckle
Michael J. Armstrong
Michael Arnone
Ronald G. Aube
Chad E. Barnes
Thierry Barre
Colleen A. Becker
Timothy L. Beckner
Christopher J. Berry
Olivier Blachere
Michael L. Blocker
Wendy J. Bohr
Jason M. Caffery
Matthew P. Corbett
Daniel H. Cram
Todd A. Dengler
Anne Denjean

Ross A. Diaper
Brenda D. Eddy
Efren Escobar
Lee Everett
Lynn A. Fear
Terri L. Fritcher
Ron A. Gerot
Brendan O. Getz
Tammie S. Ginter
Kelly J. Green
Jared L. Hempstead
Latuana R. Hicks
Robert L. Hofer
Bruce A. Jack
Bonnie Kauffman
Sara L. Koehn
Eric J. Kromer
Teresa S. Lemmer
Jerome Lephay
Guo En Lew
Debra P. Liakos

Joshua E. Lieb
Aaron M. Losey
DeeAnne M. Loveland
Bryan J. Lower
Devan M. Lyne
Nancy J. Mackin
Deanna L. Mc Laud
Daryl L. McCall
Rebecca A. McGilton
Stephen J. Nedev
Bradley R. Neilly
Nathalie Nelkin
Greg F. Nibaur
Chad W. Nielsen
Mary E. Nolder
Matthew J. O'Brien
Johnathon C. Obst
Kimberly O'Connell
Stephen E. Ossenkop
Jeffrey F. Otto
Joan K. Peck
David R. Peden
Ness Perez
Lloyd E. Plume
Linda D. Raid
Bertha Ramirez
Contreras
Jason M. Renk
Joshua L. Ryan
Kirk R. Schobert
Gregory M. Seil
Trevor K. Sheeley
Joseph P. Smith
G A. Smith
Ralph J. Smith
Jeffrey A. Spies

CELEBRATING 40 YEARS

Marta Gellerman

Cedar Rapids, Iowa

Start date: May 1975

Original position:
Stenographer, General Aviation

Current position:
Sr. Configuration Coordinator

What is your favorite aspect of your current position? I really enjoy working with a wide variety of great people within the company and being able to work on many different types of tasks.

Iris Steyert
Jody L. Thompson
Barbara J. Tjarks
Darcey L. Torrey
Samantha R.
Towlerton
William B. Vaul Jr
Kenneth M. Walker
Kurt F. Werner
Richard G. White
Tammy C. Zeien
Lance A. Zook

JUNE

Christopher P. Abel
Jason E. Andreasen
James A. Arkenberg
James E. Aune
Carrie L M Baquie
Gary V. Barnette
Jeffrey K. Bellis
Boucif Benchehima
Melinda J. Berg
Dayna D. Berndsen
Michael A. Brown
Andraya M. Chapman
Danny K. Collier
Betty S. Davis
Robert C. Dawson
Corey D. Deg
Khai M. Do
David C. Dobson
Angela L. Donley
Rhonda L. Eickert
Hadi Eskandari
Justin M. Fitzgerald

Sean T. Foster
Stephane Gasnier
Brent J. Gasper
David J. Gloeckner
Wayne Hamilton
Lynn M. Hancock
Anthony J. Harden
Sandra K. Hart
Bedford F. Hutton
Eric C. Johns
JoAnn S. Kasel
Brittany L. Kerns
Tim G. Kingsbury
Martin J. Klipp
Elizabeth L. Kohout
Jason A. Kopp
Pavel V. Krizhevskiy
Magali Laine
Minodier
Timothy E. Lewis
Thomas N. Lloyd
Robert S. MacLeod
Ronald B. Matthews
James W. Mayer
Sandra M. McBride
Walter P. McCann
Allen B. McQuown
James J. Mele
Cindy A. Merritt
Robin R. Mershon
Sue E. Miles
Byung H. Min
Rita M. Molitor
Adam J. Moritz
John Moser
Virginie Munoz

CELEBRATING 40 YEARS

Dale Braun

Cedar Rapids, Iowa

Start date: June 1975

Original position:
Mechanical Designer

Current position: Sr. Manager,
Mechanical Design

What piece of advice do you have for new employees?

Challenge yourself to understand all aspects of your job as it relates to the work flow and Rockwell Collins and strive to improve it.

Shelley A. Jilek
Wen Wei Lim
Perry J. Mick
Sugrim Moore
Shelby J. Morrison
John T. Nielson
Michael J.
Ozminkowski
Chee Kwong Tan
John P. Tibor
Catharine L. White
Alexander Worsley

JUNE

Kirk B. Anderson
Ion V. Barbulescu
Stacy H. Cha
Lynda J. Dooley

Jacek Zarod
JULY
Helen H. Alexander
Timothy J. Becker
Nick A. DiGiacomo
Elizabeth C. Eakin
Neal A. Evans
Robert A. Flood
Guy E. Gallant
Belinda Gonzalez
Salorio
Zigma M. Haislip
Hyla L. Harris-
Plummer
Joel H. Hentrich
Peter J. Higgs
Michael C. Hillery
Alvin Kahalewai

Charles E. Overbey
Chad E. Pearson
Marjorie M. Pederson
Michael B. Powellka
Karen L. Prior
Timothy M. Raap
Brenda K. Rider
Erika A. Roling
Joseph J. Schueder
Jammey P. Schultz
Richard D. Seeley

Brent A. VanWey
Franklin E. Vaughn
Mark Walkington
Michelle L. Wanttie
Benjamin M. Wiley
Chad M. Williams
Linda G. Williams
John W. Wing
James L. Wingert Jr.
Martin J. Wittrock
Tiffany J. Woodhouse

Steven J. Clayton
Nathan A. Coates
Christophe Courtade
Dewayne E. Curry
Candace L. Dearmore
David A. Downing
Tony B. Duong
Jennifer A. Emond
Pascal Enjalbert
Jay B. Gallagher
Brent M. Gargano
Chris A. Goudy
Kevin C. Gray
Timothy N.

Hammond
Earle W. Harrison
Ian S. Harrold
Teresa C. Haven
Paulette M. Hearn
Nathan L. Hoffman
Jeffrey R. Huffman
Drifa Jelloul
Luann M. Jones
Joy L. Klaassen
Wojciech Kossowski
John R. Lauffer
Philippe Lievin
John W. Lord
Cecilia Elizabeth Loya
Martinez
Lorena J. Madden
Cheri A. Manternach
Trent D. Martin
Sherrie L.
Maschmann
Jerome Mercadal
Brent S. Mohasci
John Monto
Mark G. Ney
Violette P. Nivera
Timothy A. Pearson
Thomas E. Pederson
Ian L. Pratt
Richard M.
Rademaker
Christie L. Reynolds
Karla Ivonne Rivera
Guillen
Robert E. Savage
Jeremy Scarpetta
Damien M. Schmitt
Dennis A. Secours
Ron J. Sellner
Eric C. Sellon
Philippe Serre
Michele L. Steepleton
Katie E. Sullivan
Thomas B. Susen

Jason E.
Swartzendruber
Adriane R. Van Auken
Robert M. Verastiqui
Kimberly S. Ward
Mary K. Waterhouse
Elizabeth A. Wehner
Hailin Wen
Barbara A. Wiley
Angela R. Wilhelmi
Kevin J. Wilkinson
Todd M. Winchester

AUGUST
Jim S. Barish
Liliana Carranza
Mayoral
Magdalena Castro
Vasquez
Lionel Choppin
Nicholus R.
Clinkinbeard
Diane M. Conrad
Chasity L. Cooper
Robert L. Criger
Lynae M. Crozier
Rosa Diaz Barrena
Blanca Estela
Dominguez
Bernadette L.
Ellingson
Paul A. Fletcher
Maria Nieves Franco
Amezcu
Jason M. Franqui
Delfina Gonzalez
Gonzalez
Bradly J. Groothuis
Gwendolyn R.
Henderson
Darrel G.
Herschberger
Linda M. Holthaus
Stella Kazansky
Jennifer M. Kennedy
Angela M. Kilburg
Heament Kurian
Elizabeth Lazaro
Venegas
Nathan D. Longwisch
Daniel J. Lowe
Roy C. McAllister
Donald G. McDill
Shelly L. Meyer
Misty J. Miller
Christopher Minor
Jose Enrique Moya
Gonzalez
Vlonda A.
Nunemaker

Enid Otun
Jason R. Owen
Tami S. Ploessl
Mathieu Prevot
Martha Cindia Reyes
Carrillo
Brian S. Rodenbaugh
Jose Benito Rojo
Meza
Steven J. Schaub
Pamela A. Schneider
Amy M. Short
Jerry W. Snyder
Tamra K. Spellerberg
Kelly L. Storey
Jeffrey S. Thomas
Kerry J. Thompson
Jason J. Valestin
Levi D. Van Oort
Phat Van Truong
Yanko Videv
Larry Whitby
Linda M. Wiley
Wendy S. Willenbring
Maria Z. Winters
Maria Wojciechowski
Larry R. Wright
Belinda Wright

10 YEARS
MAY
Paul D. Albrow
Matthew J. Barth
Penny A. Bauer
Gregory G. Baxter
Amy E. Beer

Abby L. Bohl
Patrice R. Bowe
Karla J. Bradley
Michael Brookes
James D. Browning
Kurt T. Buhr
Tressa L. Burch
Daniel S. Burg
Joel W. Cardo
Saravana K.
Chinnasamy
Dennis A. Conway
Robert F. Dancer
Nicholas A. Dolan
Margie L. Elsbernd
Michael J. Eltze
Lori R. Erickson
Iain Finnie
Kyle R. Ford
Jared J. Franklin
Terry L. Geffert
Usama A. Gheblawi
Sherri L. Greteman
Jack A. Grimsley
Danilo P. Groppa
Mohamad N.
Habboub
Phillip J. Hamm
Ronald E. Heberlein
Niels K. Henselman
Erich Hiller
John R. Howell
Kristopher R. Howell
Terry J. Hrabik
Victor Hu
Eric Itcia

CELEBRATING 40 YEARS

Don Stulken

Cedar Rapids, Iowa

Start date:

August 1975

Original position: Engineer/Scientist I,
Government Avionics Division

Current position: Pr. Engineering
Manager, Government Systems
Architects and Experimentation

**What is your proudest
accomplishment at Rockwell Collins?**

On multiple occasions, I have had the great fortune to contribute to teams that have pursued, won and successfully executed critical programs. I was then able to watch as those programs produced solutions that saved lives or altered the path of world history.



Willy Setiawan
Thomas S. Shaver
Larry D. Sills
Meropi Sisas
Stephanie D. Smith
Bruce G. Snyder
Gregory M. Spak
Bennett J. Sproul
Vicki L. Steenhoek
Sara J. Steil
Richard L. Stevens
Jessica E. Trimpe
Keith M. True
Kristie L. Tsai
Tamie K. Unash

JULY
Randy P. Ackerman
Margurite V. Arnold
Roderick B. Aubrey
Alan Bachmeier
Robert S. Bahr
Derek M. Balavac
Philippe Barret
Richard Bernis
Chrystal D. Berstler
Christina R. Berthel
Michael Blackford
Timothy A. Brown
Tyler W. Bushnell
David V. Cheaney
Xuan Chen

CELEBRATING 40 YEARS

Cindi Tippet

Cedar Rapids, Iowa

Start date:

August 1975

Original position:
Administration, Service Parts

Current position: Sr. Pricing Specialist,
Airborne Solutions

**What was your most challenging
project?** As fast as technology
changes, it has been challenging to
keep up with all of the new tools that
are required for my jobs.



Ralph H. James
Robert C. Jenkins
Larry J. Johnson
Pamela F. Jones
Sridher Kaminani
Kevin P. Karlbom
David J. Kasper
Jeffrey A. Kellerhals
Lynnann M. Kieffer
Joy D. Koepnick
Susan K. Kohl
Nick A. Krull
Mark J. Lamos
Samantha A.
Langfald
Judith S. Larson
Jennifer A. Leonard
Cory D. Lillesve
Dartrell N. Lipscomb
Beatriz Adriana
Lopez Solis
Barry S. Lovseth
Nathan P. Lower
Frederic Maison
Bouthsakone M.
McCain
Michelle K.
McCullough

Jeffrey S. Medina
Christine L. Miller
Tyler J. Mosset
Benjamin D.
Mossman
Alex J. Nath
Pamela M. Newberry
Charles N. Njenga
Matthew A. Nost
Brenda M. Nyborg
Jody M. Ochs
Lynn E. Petersen
Brian Phillips
Jonathan K. Poling
MaryAnn Popham
Eddie A. Post
Shannon M. Raap
Heather R.
Richardson
Michael W. Rinker
Jodee M. Ross
Janet L. Ryan
Jeffrey D. Schmidt
Michael J. Schmitt
Joni P. Sevcik
Anamika Shams
Marco A P da Silveira

Donald M. Travis
Jean-Baptiste
Vaillant
Randull K.
Washington
Matthew D. Weisz
Nancy E. Weldon
Karen E. West
Jeremiah D. Wolf
Leslie Wolfe
Julie A. Zeien
Tiffany N.
Zweibohmer

JUNE

James M. Bailey
Ryan E. Beach
William R. Bennett
Christopher M.
Biggers
Connie R. Brecht
Clayton E. Brown
Jennifer C. Bruner
Amy A. Buddenberg
Hon M. Busta
Bonar Y. Chiu
Steven D.
Cottingham
Timothy J. Crile
Manoj V. Das
Nicholas A. Di Maio
Peter T. Dyrke
Shaun C. Elhard
Sara M. Enslow
Helena L. Fitzgerald
Joseph D. Forrest
Lisa M. Gaspar
Thompson
Michael G. Genetti
Scotty B. Gifford
Luis R. Granadillo
Matthew D.
Gunderson
Nathan A. Haas
Mark D. Hardinger
Filiberto Haro
Megan S. Hauck
Feather L. Hawkins
Maud Hinard
James L. Holt
Kindl J. Holthaus
Karim Ibrahim
Jeffrey D. Johnson
Christopher Jones
Melodee D. King
Jonathon L. Knapp
Brian W. Knight
Jerome H. Koistinen
Matthew J. Kosmoski

Jay R. Krueger
Nipaphan Lafrance
Laurence
Lamontagne
Heather G. Lee
Matthew Lengyel
David J. Lenz
Grant Lian
Daniel S. Logan
Leah A. Loomer
Christopher Mackey
Alejandro Martinez
Aldaco
Timothy A. Messer
Matthew W. Moor
Philip L. Morehead
Lacy T. Morris
Rebecca F. Morrison
Amy L. Munchel
Kellie A. Murphy
Virgile Nauton
Dean A. Nelson
Jamie L. Nelson
Leo-Anthony Ortiz
David A. Paggett
Jesse B. Pate
Maria J. Paulsen
James D. Perren
David J. Philipp
Agnes Pimoult
Nicholas Pirocacos
Jeffrey R. Powell
Michael Proies
Nubia Nis Ramirez
Gutierrez
David L. Ratzer
Joanne M. Reicks
Brian P. Ristine
Kathleen A. Sanders
John P. Sandlin
Steven R. Shepherd
John R. Skola
Amy C. Slater
Zachary R. Thompson
Benjamin L. Timp
Grainne E. Tobin
Carolyn K. Tomberlin
Tyler D. Vickstrom
Yifei Wang
Derek L. Weber
Carol J. Welper
Nicole M. White
Thomas J. Whitehead
Tara Wigglesworth
George L. Williams
Theodore J. Wittliff
Brian R. Wolford

Kon B. Wong
Paul E. Yatskis
Katherine M. Yocum
Bao-Tram V. Young
Norma Carolina P.
Zapata
Andrew J. Zobro

Christel P. Gray
Adam Green
Misty M. Green
Kirk A. Gunter
Steven A. Gurley
Darcy R. Hanson
Susan A. Holder

CELEBRATING 35 YEARS

Don Barrett

Cedar Rapids, Iowa

Start date:

July 1980

Original position:

Technical Staff Member,
Telecommunications
Products Division

Current position: Pr. Software
Engineer, Airborne and Ground
Communication Products

**What piece of advice do you
have for new employees?**

Take advantage of opportunities
to learn new technologies.



James S. McCullough
Robert M. McDonald
Jesse D. McDonald
Justin B. Medcalf

Graham G. Snook
Michael T. Soloperto
Amy S. Thommen
Bradley R. Thompson

CELEBRATING 35 YEARS

Jim Giglio

Tustin, California

Start date:

January 1980

Original position: Test Engineer,
Production Support Engineering

Current position: Pr. Software
Engineer, Flight Controls and
Information Systems

**What is your favorite aspect of
your current position?** Being able
to pass on some of the lessons that
I've learned over the years — many
the hard way — and witness that
“lightbulb” moment when others
grasp what had been previously
eluding them.



JULY

Sheryl A. Ainsworth
Karine Allenet
Maria Guadalupe J.
Aragon
Reetika Bhandari
Todd D. Blubaugh
Amy J. Bresnahan
Jeffrey J. Burns
Dean R. Burroughs
Robert J. Chagnon
Winston A. Chung
Amy J. Clefisch
Brenda L. Clothier
Michael J. Cook
Nairi Elmayan
Brandy Jo E. Feldman
Michael Fielder
Christopher A. Gloe
Craig A. Goldsmith
Edith Vanesa Gomez
Rojas

Rebecca L. Hulme
Joshua E. Inrsonide
Joel Irving
Deanna L. Ishman
David M. Jackson
Joseph B. Jackson
Julie A. Jaster
Jordan M. Jump
Bryon S. Kanne
Aryeh Katz
Choon Foo Khor
Kathleen M. Knott
John R. Kolodick
Amy L. Lampe
Guadalupe Lazos de
la Trinidad
Jeremy A. Lee
Robert Lee
Nishad J. Limaye
Chris M. Logan
Tara M. Nachtmann

Jean Nkuluba
Crystal K. Novak
Alexander G. Oliva
Kevin J. Ostmo
Connie L. Pahl
Norval Perdue
Kyle R. Peters
Steven M. Petersen
Daniel J. Pfeiffer
Nguyen N. Pham
Barton V. Pisarik
Wanda J. Plummer
Billie J. Putz
Jorge Alberto
Quezada Valdez
Ryan M. Rodgers
Luis Santiago
Grisel Sbert
Sonya K. Schwab
Terry A. Shaner
Tazan Simeles
Andrew J. Stern
Eli Torres
Lorena Valdez
Maurice O. Voirin
Kelly M. Waterhouse
Mark A. Webster
Daniel L. Weiser
Jonathan R. Wheeler
Rebecca L. Woodward

AUGUST

Julianne M. Abrams
Denise L. Ammeter
Veronica P. Astorga
Blandine Begue
Heber B. Bennion
John A. Biondo
Joseph R. Blank
John M. Bolen
Jacob L. Bonner
Andrew Borland
Stephanie Borrel
Rachid Bouroumi
Jeremy A. Box
Veronica Braden
Leticia Camberos
Medina
Jessica J. Castelli
Eric L. Clark
Nicholas V. Cole
Erika J. Delphey
Linda K. Dills
Adam S.
Evanschwartz
Randall A. Fernandez
James W. Fraise
Jon J. Freesmeier

Wendy L. Fuessley
Benjamin M.
Graubard
Jose I. Guerra
Gamardo
Donna J. Herd
Ellen E. Hoffman
Ming Huang
Elizabeth M. Ireland
Lorena B. Jacuinde
Ibarra C. Jaculbe
Rony Kalaany
Aaron J. Kapaldo
Sarah M. Kayser
Eun Sung Kim
Julie A. Kruser
Heidi M. Kueter
Jason M. Lampe
Vinh V. Le
Landy Saray R. Leanos
Marco Antonio Leong
Herrera
Andrew J. LeVake
Kristal D. Long
Maria E. Maldonado
Bridgette L. Mann
Benjamin C. Melton
Sidonie Mercier
Tracy I. Mercil
Frances D. Millar
Amie L. Miller
Dung T. Nguyen
Binh H. Nguyen
Megan E. O'Connor
Carrie L. Oelrich
Cheryl A. Osborne
Liang Pan
Daniel J. Pemble
Vijay K. Pisini
Daniel M. Pourkesali
Renee L. Rabe
Lisa M. Reicks
Alice L. Rines
Angelica Maria
Rodriguez Rubio
Omar Rosa
Marc M. Runde
Lucia Saldana
Noriega
Brenda Cristina
Sandoval Cano
Marco Antonio
Sandoval Gonzalez
Josiah D. Sanner
Jill J. Schlemme
Susana Servat
Asha Sharma
John A. Shaw

Laura D. Skola
Brian J. Smith
Nancy E. Stacey
James L. Stohler
Lisa K. Tilkes
Kathy C. Vickers
Douglas A. West
Brandon A. Whipple
Lynne E. Wiegley
David R. Wilkinson
Thomas G. Williams
Michelle M.
Williams-Jones

5 YEARS

MAY

Anita M. Adams
Eric S. Allen
Jorge A. Alvarez
Simona Ardelean
Jiunn Min Aw
Priya Bandhavi YVS
Kelly L. Barton
David R. Birdsall
Jithendra Kumar
Bonala
Jacob L. Bowden
Kollin G. Burns
Robert C. Busse
Luis G. Castillo
Jason L. Christensen
Jeffrey R. Clark
Jean L. Clason
Ashley Cook
Xiomara Cruz Diaz
James A. Coates
Jeffrey B. Colton
Erica A. Crawford
James L. Crow
Michael C. DeClerck
Anupam Dhar
Manjunatha
Dodagatte
Taras L.
Dunduchenko
Robin Federico
Andrew J. Gacek
Kenneth A. Gilbert
Sarah Griffith
Alexandra P.
Goldensoph
Carlos Alberto
Gomez
Justin R. Hahn
Cody W. Hand
Taylor A. Hartman
David R. Hershman
Michelle D. Hruby

Manish Jain
Pamela M. Jarvis
Donald M. Kamara
James D. Kleveland
Jeremy R. Knepper
Prabhash Kumar
Ravi Kumar
Nixon G. Lange
Gregory J. Laquadra
Kristina R. Lloyd
Cody A. Londal
Elvira Guadalupe
Lorente Zamora
Kanan F. Lozon
Ricardo Macias Lopez
Francoise Magliozzi
Cameron T. McCalley
Michael P. McLane
Douglas M. McVicar
Monica B. Moen
Charles A. Monson
Douglas W.
Mordaunt
Terrance L. Moser Jr.
Frederic Moulin
Steven Mountford
Laura L. Musser
Sokha C. Nunn
Samuel O. Olowoyo
Chandana Panda
Rakesh Pedapudi
Thomas D. Petersen
James C. Pickel
Sergio Porcari
Brienna Putz
Jeffrey M. Reaves
James L. Richards
Mickael Sabelle
Himansu Sahu
Rosa Isela Salais
Torres
Andrew M. Santiago
Carla Saulino
John T. Schroeder Jr.
Andrew M. Scott
Rajan Sengazhani
Thanigachalam
Jack Simonian
Ravi T. Singh
Dean A. Sipiczky
Kari L. Smith
Sue Ellen Stelling
Jimmie L. Stewart
Stephen J. Sutterer
Theodore C. Sutton
David S. Taylor
Charles M. Turner

Rakesh Kumar Verma
Eduard Vladut
Brian K. Wilcox
David C. Wilson
Shailendra Yadav
Tracy M. Ziegenhorn

JUNE

Bruce Abernethy
Zachary D. Adkins
Nathan B. Alexander
David P. Augustine
Tina M. Backus
Andrew G. Banks
Michael J. Banks
Christopher J.
Baumler
Carrie R. Beckley
Brandon J. Betuk
David A. Beyer
Siddhu Dheeraj
Bhumireddy
Stephen J. Bizak
William R. Bowen
Michael H. Brown
Brian A. Buehler
Barry R. Cheesman
Brannen M. Clark
Jack B. Coe

Justin A. Domenech
Anirak T.
Douangphrachanh
Alberto Duran
Gordon Earl
Francisco J. Feliciano
Daniel L. Finnegan
James E. Frontera
Russell Frost
James Garcia
Alejandro Gonzalez
Rocco L. Goodwin
Guadalupe E.
Graciano
William J. Gratton III
Yannick Gurung
Uttam Gurung
Phillip J. Hale
Scott M. Hamilton
Joshua C. Harper
John L. Healey
James N. Hollowell
Linda M. Hwalek
Timothy A. Jennetten
Ryan G. Kersman
Joseph A. Klager
Bradley J. Koehler
Corey P. Kraft

CELEBRATING 35 YEARS

David Gray
Cedar Rapids, Iowa

Start date:
June 1980

Original position: Software Engineer,
Built-in-Test/GPS

Current position: Pr. Software
Engineer, Modernized GPS

**What piece of advice do you have
for new employees?** Always keep
learning new skills to ensure you
don't become obsolete and are ready
for new opportunities.



Robert Conklin
Jeffrey E. Crow
David R. Culver
Benjamin D. Dattilo
Amy J. Davis
Joseph C. Diner

Brian D. Kroeze
Naresh Kulkarni
Satya Kiran Kumpatla
Ngan K. Le
Kenton Liu
Nigel Lohman

Eric J. Loren
 Maribel Lorente
 Kok K. Low
 Akhila Machnoor
 Kristopher L. Martin
 Jacob R. Mauermann
 Andre F. Mitchell

April J. Monk
 David C. Mosteller
 Rufus Mullins III
 Primus G.
 Mutasingwa
 Tin T. Nguyen
 Loc V. Nguyen
 Daniel F. OHalloran

CELEBRATING 35 YEARS

Jeff Rambo

Cedar Rapids, Iowa

Start date: June 1980

Original position:

Software Engineer, GPS Phase IIB

Current position: Systems Design
 Engineer, Modernized GPS

**What is your proudest
 accomplishment at Rockwell Collins?**

My proudest accomplishment was being part of the Precision Lightweight GPS Receiver (PLGR) design team when we won a production contract by passing government qualification tests and providing the lowest production costs among the competition.

Satyananda Patnaik
 Jeffrey J. Payne
 Anne Sophie Piloz
 German Pineres
 Linda M. Pullen
 Jane M. Quint
 Robert G. Quinton
 Donald J. Rachels
 Josefina Ramirez
 Godinez
 Rebecca Raymond
 Hari Prakash Reddy
 Edward W. Richman
 Rachel M. Ries
 Rodney J. Rivers
 Daniel L. Robinson
 Krystina T. Rodriguez
 Daniel B. Roggendorf
 Thomas V. Rooney
 Hao Ruan
 Conrad C. Rustenburg
 Cameron H. Sadler
 Mohit Saini
 Stephen J. Schmidt
 Hannah E. Schmidt
 Madhavan Sekar
 Monica A. Severson
 Scott M. Severson
 Christine L. Shaw
 Randall S. Shaw
 Clayton L. Shotwell
 Abdul A. Siddiqui
 Renee L. Simon
 Timothy Sitkauskas

Timothy W. Smith
 Craig A. Sossi
 Maricela Sotelo Moya
 Bhanuprakash
 Sunkara
 Lisa M. Trujillo
 William F. Tuscher
 Landon J. Tweeton
 Juan Valenzuela
 Deepthi Vemulapalli
 Salvador Villalta
 Lucas J. Villhauer
 Katarzyna S. Wagner
 Stephen M. Wagner
 Gary L. Webb
 Christopher J.
 Wilhelm
 Kevin C. Williams
 Joshua J. Wilson
 Sherif T. Youssef
 Wayne E. Zitkus

JULY

Sandro Almonte
 Baraa Alyusuf
 Kyle D. Andrews
 Frederick J. Babb
 Wanda K. Baez
 Radha
 Balasubramanian
 Eric P. Bauer
 Mark Bishop
 Ceyon Brock
 Stephanie C.
 Buonadonna
 James M. Byington

Christopher A. Carle
 Rhonda M. Causey
 Brandon M. Cody
 Kyle S. Cryderman
 Andrew A. Dibble
 Lita M. Donaldson
 Jordan R. Englert
 Melissa K. Erdahl
 Brian A. Fletcher
 Shantelle L. Franzen
 Clara E. Garman
 Michelle L. Gericke
 Travis J. Goldberg
 Arpit Gupta
 Marie S. Hauke
 Clark D. Havran
 Linda J. Hobbs
 Ricky L. Hosler
 Martin J. Jennings
 Angel Jimenez
 Jeffrey Johnson
 Kevin P. Johnson
 Roberto Juarez
 Guaearrama
 Qusay A. Kammona
 Tyson D. King
 Patricia A. Koch
 Nicole M. Koch
 Iranna Konasirasagi
 Jeffrey E. Laban
 Lucas T. Lampe
 Alan Lantigua
 Priscila Lazaro
 Venegas

Anna Maria Leonard
 Matilda G. Livadaru
 Brandon L. Locklear
 Marvin R. Lovato
 Jeremy D. Luerkens
 Richard M. Matus
 Richard L. McQueen
 George S. Mellado
 Gregory M.
 Mockensturm
 Chad B. Odgers
 Casey M. O'Donnell
 Suman K. Onteru
 Brian D. Pawlowicz
 Jeffrey J. Penington
 JoAnne Powers
 Anupriya Prakash
 Leslie M. Prior
 Ravi Shanker Rama
 Moorthy
 Lisa A. Rapaglia
 Sandeep Sajja
 Nicolas Sanchez
 Stan R. Sandoval
 Noboru Satowaki
 Joshua M. Sevcik
 Joshua D. Smith
 Brian P. Stapley
 Anthony R. Starr
 Aaron M. Studwell
 Jacob G. Teague
 Cecile Terrat
 Kiran Thallapaka
 Angela C. Thurman

Janet R. Wardlaw
Jonathan Yani
Tracy M. Zachman

AUGUST

Juan E. Aguilar
William M. Alexander
Olivier Antoine
Luke A. Arens
Amanda Aronson
Prajyod Arudra
Ryan M. Bankson
Stephanie C. Barber
Kenneth S. Barnes
Richard C.
Bartholomay
Justin M. Bell
Yong Beng Ong
Olivier Bernard
Elaine F. Bitonti
Debra M. Breaux
Joshua J. Brislawn
Joyce L. Brophy
Amy E. Burgess
Luis Alberto
Cardenas
Scott T. Channon
Neelam Chauhan
Veronique Chaumeil
Rakesh Chavati
Chaitanya
Chimakurthi
Robin Chin
Yu Han Ching
James W. Chrisman
Kenneth B. Close

Tracy W. Colburn
Mariusz Czarnomski
Sandra D. Davis
David J. Davis
Julie E. DeForest
Barber
Christopher P.
Degroot
Arie J. DeJong
Cody M. Dennis
Erin M. Dohlman
Dustin H. Ealy
Rebecca Edes
William H. Elliott III
Melissa M. Evans
Blair L. Evens
John D. Fessler
Gregory P. Fett
Emilie Feuvrier
Wendell D. Gaines
Ryan A. Gaines
Sneha Gangi Reddy
Kunal Gaurav
Melody Glass
Michael Guillois
Roy T. Gullickson
Artistee S. Harris
Khondkar F. Hasan
Mei Faye Heidi Chan
Kelly J. Hemmer
Matthew T. Higgins
Antavius D. Hill
Shaun B. Humes
Nadir Antonio Ibarra

Du Wayne Jackson
Kurt I. Jaeger
Neil J. Jansen
David M. Johnson
Chriselle D. Johnson
Kaitlin C. Johnston-
Boyse
Leah A. Julich
Tyler T. Karrels
Suyash Shrikant
Kelkar
Marcin Kolesinski
Raviteja Kontham
Jeffrey D. Kosiba
Megan M. Langstraat
Flora Lherbier
Lucas J. London
Neeraja Madala
Zabihollah Mahini
Christine L. Masters
Rita I. Matos
Douglas A. McCoy
Timothy W. McGee
Moises German
Mendoza Figueroa
Adam R. Merritt
Travis A. Merta
Andrew B. Miller
Peter R. Millikin
Yvonne P. Mills
Shankar Mishra
Pavitra Mudumba
Michael A. Murray
Yugendra Sai Babu
Nadupuru

CELEBRATING 35 YEARS

Gail Smith

Cedar Rapids, Iowa

Start date:

August 1980

Original position: Software
Engineer, GPS Phase IIB

Current position: Program Manager,
Airborne Solutions Military Transports

What is your proudest accomplish- ment at Rockwell Collins?

My proudest accomplishment
was completing my first C-130
avionics system upgrade and
getting to sit in the pilot seat
of the completed aircraft.



Brent N. Nakamoto
Venkatakrishna M.
Nallaballi
Pavan Kumar R.
Nandyala
William R. Nelson
Kyle R. Olund
Christopher Ownby
Krishna Pandey
Michael Pashin

Curtis L. Paul
Mohammad J.
Peyrovian
An Q. Pham
Brian Phelan
Bounhack B.
Phoumilay
Brian J. Piddington
Billie J. Platner
D'Lynn M. Pokorney

Anurag Ranchoddas
Debarati Ray
Paul B. Replogle
Mark J. Reynnders
Christopher R. Routh
Lee M. Rundall
Steven Scheinholtz
Erendira Segura
Gomez
Pratik H. Shah
Garvin S. Smith
Jared J. Snell
Steven L. Sperling
Robin Springer
Thomas J. Stanczyk
John F. Stutzman
Pooja Subhash
Karimpankil
Shabriya Theodore
Audrey K. Thysell
Angela K. Torrey
Dean K. Towler
Robert R. Trusty
Charity E. Tusing
Laine E. Volden
Talika S. Wilkins
Justin M. Wisdom
Li Ping Wong
Cameron L. Wood
Sarada Yerramalle
Tilottama Zade
Ganesh
Edward G.
Zuchniewicz

Retirees

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

William K. Arthur Jr. Lawndale, California	Ellen L. Coleman Marion, Iowa	David C. Heldt Ely, Iowa	Verna M. Longwell Cedar Rapids, Iowa	Daniel F. Patterson Marion, Iowa	Pamela J. Sullivan Melbourne, Florida
Douglas L. Bader Cedar Rapids, Iowa	Dennis A. Conway Marion, Iowa	Steven L. Herington Hopkinton, Iowa	Patti R. Marconi Cedar Rapids, Iowa	Gary W. Patton Garland, Texas	Maureen L. Tanury Toddville, Iowa
Richard Balvanz Lisbon, Iowa	Jack W. Cowden Cedar Falls, Iowa	Marfaret A. Hoff Annapolis, Maryland	Randy E. Maring Robins, Iowa	Dale E. Philipsek McMinnville, Tennessee	Peter E. Tilly Cedar Rapids, Iowa
James P. Barcz Central City, Iowa	Steven J. Crowe Georgetown, Texas	William A. Holden Las Vegas, Nevada	Nancy K. Marsh Cedar Rapids, Iowa	Frederick E. Preston Garland, Texas	Jan E. Treise Melbourne, Florida
Jan M. Barcz Central City, Iowa	Christine A. Crowe Georgetown, Texas	Donald P. Jacobs Alta Loma, California	Dorine K. McKay Melbourne, Florida	Mark A. Ramsey Cedar Rapids, Iowa	Steven R. Waller Cedar Rapids, Iowa
Debra L. Bernier Palm Bay, Florida	Joseph T. Culwell Troy Mills, Iowa	Gary W. Jones Garland, Texas	Thomas K. McGathen Wilsonville, Oregon	Randal C. Rath Coralville, Iowa	George D. Weihrauch Agusan Del Sur, Spain
Dorothy I. Bertch Cedar Rapids, Iowa	Helen T. Dains Amana, Iowa	Roslyn Jones Sanford, Florida	Patrick O. McIntosh Escondido, California	Diana L. Ringgenberg Walker, Iowa	Jack C. Werling Mechanicsville, Iowa
Peter H. Brochard Cocoa, Florida	Russell W. DeHoedt Cedar Rapids, Iowa	Moustaphia H. Kassem Cedar Rapids, Iowa	James D. Michalski Tempe, Arizona	Penny A. Rogers Cottonwood, Arizona	Bryan N. Wesner Marion, Iowa
Barry A. Brown Cedar Rapids, Iowa	Timothy A. Decook Marion, Iowa	Michael E. Kitson Marengo, Iowa	Michael E. Miller Long Beach, California	James L. Seymour Jr. Shirley, New York	David M. Whitmer Union, Michigan
Paul A. Cardinale Hayward, California	Eugene E. Eilers Beaverton, Oregon	Gary D. Krause Cedar Rapids, Iowa	John H. Mohr Marion, Iowa	Larry M. Schmaltz Cedar Rapids, Iowa	Rick A. Williams Coralville, Iowa
James A. Carollo Cedar Rapids, Iowa	Steven C. Fairbanks Cedar Rapids, Iowa	Steven J. Kriz Mount Vernon, Iowa	Debra S. Murphy Iowa City, Iowa	Alice V. Schwager Bellevue, Iowa	Peggy H. Wilson Oceanside, California
Douglas D. Carpenter Cedar Rapids, Iowa	Michael D. Fossum Clutier, Iowa	John Krouse Marysville, Washington	Ted W. Newman Placentia, California	Janice M. Sewell Cedar Rapids, Iowa	Cathy R. Yoder Vinton, Iowa
William C. Chandler Jr. Marion, Iowa	Cynthia L. Foster Castalia, Iowa	Mary A. Kurovski Cedar Rapids, Iowa	Gloria J. Nordheim Decorah, Iowa	Regina M. Smith Anamosa, Iowa	Delmer H. Yonts Grant Valkaria, Florida
Debra L. Charlier Marion, Iowa	Robert F. Gaebler Marion, Iowa	Nancy J. Leclere Cedar Rapids, Iowa	Stephen K. Overbeck Cedar Rapids, Iowa	Guy A. Stackhouse Marion, Iowa	John A. Young Cedar Rapids, Iowa
John C. Cirkl Marion, Iowa	Elnora M. Gibson Melbourne, Florida	Keun M. Lee Cedar Rapids, Iowa	Dean R. Parr Cedar Rapids, Iowa	Kenneth R. Stinson Robins, Iowa	Deann M. Zenor Cedar Rapids, Iowa
Dan J. Clafin Cedar Rapids, Iowa	Ruby T. Green Dallas, Texas	Vicki A. Lester Anamosa, Iowa	Anna W. Parrott Kent, Washington	Dale W. Strand Toddville, Iowa	
	Richard D. Hanson Toddville, Iowa				

In memoriam

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

Eileen J. Algaze* Monarch Beach, California May 9, 2015	William A. Engle* Desert Hot Springs, California July 2, 2015	Rodney L. Hollon* Alger, Ohion March 10, 2015	William A. Lightle Jr.* Newark, Ohio May 28, 2015	Barbara J. Riddle* Cedar Rapids, Iowa July 15, 2015	Leonard C. Sweeney* Winchester, Kentucky April 10, 2015
Steven R. Ball* Cedar Rapids, Iowa June 17, 2015	Donald R. Farmer* Louisville, Kentucky April 20, 2015	Patrick J. Hope* Laguna Woods, California July 5, 2015	Ruby D. Matthews* Cedar Rapids, Iowa May 15, 2015	Clarence Romes* Colorado Springs, Colorado July 1, 2015	Lonny D. Tajii* San Jose, California June 2, 2015
Todd A. Biegler Marion, Iowa May 11, 2015	Patsy W. Faulk* High Springs, Florida June 7, 2015	David L. Huss* Melbourne, Florida March 21, 2015	Michael E. McCoy* Newbury Park, California March 7, 2015	Emil C. Rotar* Catonsville, Maryland March 10, 2015	Thu N. Tran* Garden Grove, California May 22, 2015
Arthur J. Blonker* Rialto, California May 26, 2015	Charles Finch* June 4, 2015	Barbara A. Jensen* Marion, Iowa July 10, 2015	Judy S. Ogawa Cerritos, California June 10, 2015	Lynn C. Rowden* Winnsboro, Texas March 28, 2015	Fritz K. Tuchel* Cocoa, Florida May 26, 2015
Orville S. Brightwell Jr.* Richardson, Texas June 13, 2015	David L. Fitch* Cedar Rapids, Iowa April 11, 2015	Larry D. Johnson Dallas, Texas May 20, 2015	Ellis Prater* Kenton, Ohio May 19, 2015	Daniel S. Soja* Wilson, North Carolina March 26, 2015	Roger L. Vickers* Dresden, Ohio June 15, 2015
Dale W. Corbett* Cookeville, Tennessee March 2, 2015	Don W. Harden* Cedar Rapids, Iowa March 23, 2015	William S. Jones Alameda, California May 1, 2015	James L. Ramsey* Cedar Rapids, Iowa April 6, 2015	Donald E. Steis* Hilton Head Island, South Carolina July 4, 2015	Winston W. Walker* Irvine, California March 26, 2015
Mary L. Crawford* Long Beach, California June 8, 2015	Barbara J. Harford* Marion, Iowa May 31, 2015	Katherine M. Kelley Plano, Texas April 14, 2015	James L. Rayner* Collinsville, Texas April 12, 2015	Ronald L. Stelzner* Oshkosh, Wisconsin June 22, 2015	Milford L. Watson* Richland, Iowa March 13, 2015
Edward Durbin* PT Richmond, California April 12, 2015	Marget Hesford* July 23, 2015	Robert H. Kettledon* Corona, California April 11, 2015	Kyle W. Rhoades Houston, Texas May 19, 2015	Rodney L. Stevenson* Moulton, Iowa March 11, 2015	Bonita C. William Selle Cedar Rapids, Iowa June 10, 2015
Thomas J. Eldridge Allen, Texas April 12, 2015	Robert J. Higgins* San Clemente, California April 29, 2015	Wayne S. Kranz* Oshkosh, Wisconsin July 3, 2015	Ralph D. Ricks* Huntington Beach, California May 5, 2015	Kenneth W. Strouse* Reading, Pennsylvania April 30, 2015	Thomas R. Wolters* Melbourne, Florida March 3, 2015
		Anna C. Lerma* El Paso, Texas June 9, 2015			Tommy J. Wood* Manchester, Iowa June 5, 2015

**Retirees*

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