

Rockwell
Collins

horizons



Triple
win with
the
777X

A trusted partner



In this issue of *Horizons*, you'll learn how the selection of Rockwell Collins to provide significant flight deck and flight control content on Boeing's new 777X aircraft was a major achievement for our company. As explained in the cover story, "Triple win with the 777X," our company is able to now provide flight deck commonality across Boeing's family of next-generation airplanes, including the 787 Dreamliner and 737 MAX.

As a result of this commonality, Boeing will realize savings in life-cycle costs across all these platforms. And any future upgrades and new solutions can be rolled into the entire fleet of aircraft.

The 777X award also highlights several of Rockwell Collins' characteristics that differentiate us in the marketplace and helped make this achievement a reality: strong, collaborative customer relationships; a constant drive to provide state-of-the-art products and services; and our responsive, reliable customer support.

In this issue, you'll also read several articles prompted by employees who have shared stories about how they're listening to our customers all over the world and working with them on solutions that meet their most critical needs. As a result, we're not just viewed as another supplier, but as a trusted partner.

Moving forward, we must continue to stay engaged with our customers. The result will strengthen the momentum we're building in the marketplace and drive business growth for both our customers and Rockwell Collins.

A handwritten signature in black ink, appearing to read "Kelly".

Kelly Ortberg
CEO and President

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Celebrating innovative achievements

Our Engineer of the Year Program celebrates the significant contributions of our company's top engineers.

Developing talent and future leaders

Formal and informal job rotation programs are helping employees find the right job fit.

In the news

Service anniversaries

On the cover

Rockwell Collins has major avionics content on all three of Boeing's family of next-generation airplanes, including the new 777X.



On the back

This ad, introducing our TruNet solution, recently appeared in several military publications, as well as in programs at defense and security expositions.



horizons

A magazine for the employees and friends of Rockwell Collins

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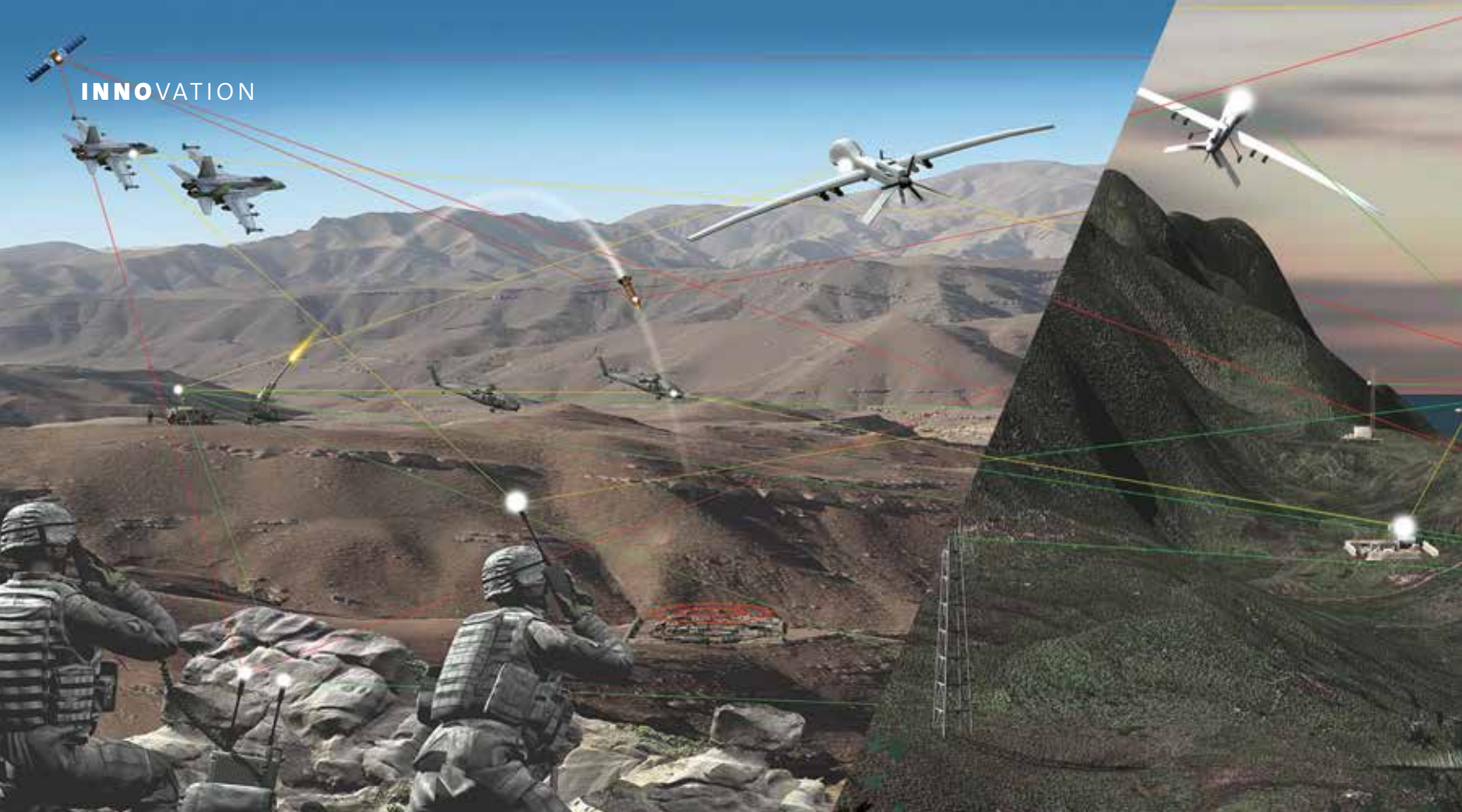
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Introducing a *tru-ly* innovative family of radios

A new design approach leads to an advanced ground-air networked communications solution.

Jennie Fredin and John Thedens have spent most of their Rockwell Collins careers in Government Systems (GS) communications. Fredin, a senior engineering manager, has been involved in building airborne radios for more than 15 years while Thedens, a technical project manager, has spent the last 10 years working on ground-based communications.

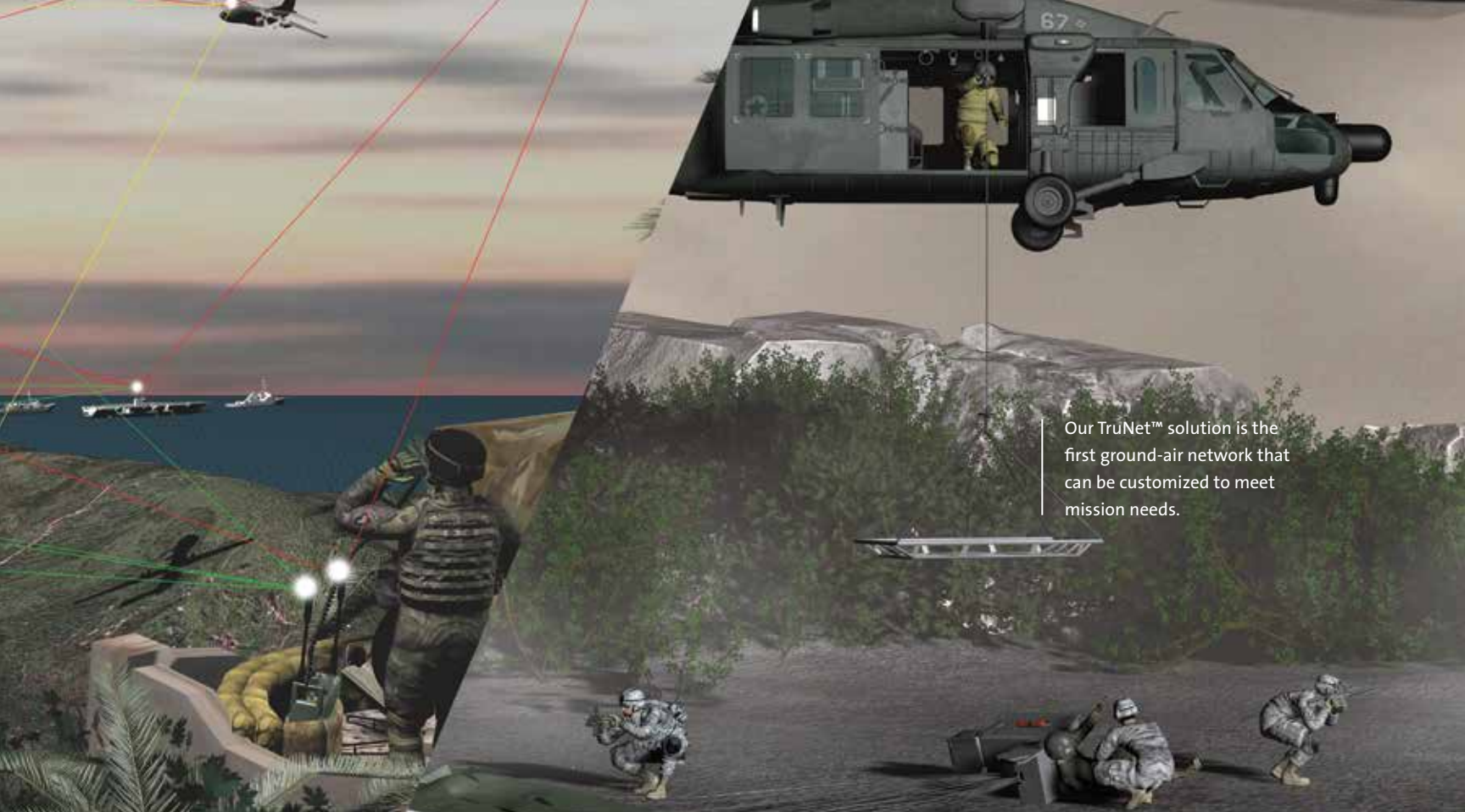
The two never crossed paths until they became part of an engineering team formed almost two years ago to design the next generation of Rockwell Collins radios. Today, that team of more than 150 includes those with ground and airborne communications expertise, as well as systems, software, hardware and test engineers.

All these skill sets are needed for the development of TruNet™ — a new family of networked software-defined radios (SDRs).

“This is a pretty new approach for us,” said Fredin. “Typically, we build a specific radio for one specific customer. Now we’re building radio solutions that interoperate across both ground and air and for domestic and international customers. That’s something we’ve never done in the past, and it’s exciting.”

There’s also a sense of pride among the team members to be collaborating on this ground-breaking program, added Thedens.

“These networked radios are the future,” he said. “We’re taking a lot of pride in being on the ground floor of this new solution that will be around for the next 10 to 20 years and being able to contribute to accelerating our company’s growth.”



First to market

Drawing on our company's product depth and expertise in delivering tactical radio communications, TruNet™ enables information to move securely in a way that hasn't been available before, according to Tom Schamberger, a principal marketing manager in GS Communications and Navigation Products.

The solution bridges a gap that exists today between ground and air communications, delivering the first fully-integrated and interoperable ground-to-air, ground-to-ground and air-to-air communications network.

"TruNet enables warfighters to securely share critical data, image, voice and video communications in real time across all domains," said Schamberger. "This gives military personnel a big picture of the battlespace and the flexibility to respond as the mission changes."

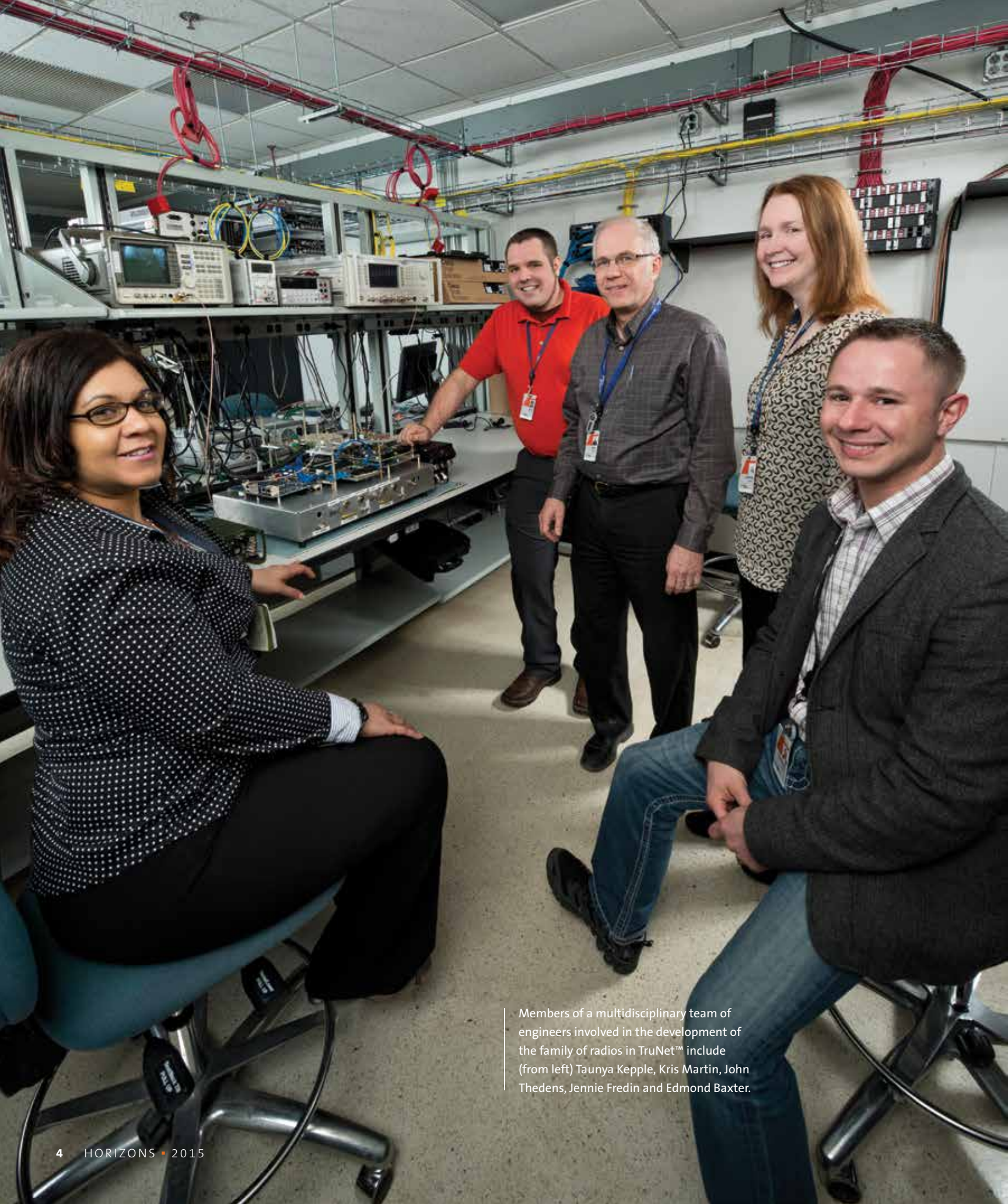
Government customers also are looking to reduce their large, diverse and costly product pipeline, Schamberger added. With our family of radios, customers can have a minimal set of radios that provides an entire ground-air package.

In addition to the military market, TruNet also has applications in the civil arena. The secure network communications and interoperability features can aid civil agencies supporting homeland security and first responder disaster relief.

The family of radio products in the TruNet solution includes a two-channel ground radio and single-channel and two-channel airborne radios. A handheld radio is being developed through a teaming alliance with Thales Defense & Security, Inc. (TDSI).

A big challenge in creating a solution across the ground and air domains has been maintaining useful technologies in both without over-burdening either one, said Thedens.

"Because these are networked radios, new functionalities are being incorporated," he said. "It requires a lot of collaboration and communication at all levels of the team. No one can make a decision in one area without potentially having an impact in another, so we have a structure in place to make sure any decisions that are being made are well-coordinated across the whole team."



Members of a multidisciplinary team of engineers involved in the development of the family of radios in TruNet™ include (from left) Taunya Kepple, Kris Martin, John Thedens, Jennie Fredin and Edmond Baxter.

“It’s an important growth driver in our GS communications business. The ground and air software-defined radio markets are growing globally, and we want to participate in that growth...”

Mike Jones, vice president and general manager, GS Communications and Navigations Products

To make crucial decisions quickly and help the team be flexible to respond to market changes, an engineering review board (ERB) was created. Made up of engineers and program and marketing managers, the ERB reviews everything that goes into the radios and guides the program roadmap in terms of what capabilities should be introduced now and what technologies can wait three or five years.

Customized to meet customer needs

A key technical innovation that is a market differentiator for TruNet takes advantage of the software-defined nature of the radios. The radios, which can support a variety of legacy and next-generation internet protocol-based (IP) waveforms, enable international customers to program their own waveforms and secure cryptography within our platform. Alternatively, we can provide custom programming at our international facilities to meet the unique needs of the local customers, according to Kurt Grigg, marketing and business development director in GS Communications and Navigation Products.

“That capability is totally new to the market, and we’re the first to do it,” he said.

In addition to a different design process for this platform, the GS communications business also implemented a market-based approach that is no longer program-driven. Instead, it is driven by the global market. Grigg said that’s in response to a changing environment in the international military market space.

“What we’re seeing is a desire from governments for more commercial off-the-shelf products or Non-Developmental Item (NDI) models,” he said. “Defense spending budgets are under pressure in many countries. With NDI, governments aren’t paying for research and development. Rather, that investment is company-funded.”

Under the market-based approach, domestic and international requirements were gathered to determine how to best build a family of radio products to serve the needs of customers around the world.

“We paid special attention to developing international variants that we believe are exportable and should enable our international teams to do work on this platform in-country,” said Grigg. “As a result, we are able to introduce both domestic and international radios at the same time. In the past, the international community would have had to wait several years before getting their products.”

According to Mike Jones, vice president and general manager, GS Communications and Navigation Products, another competitive advantage to our solution is that it will be offered at a cost-competitive price.

“Our approach has been to differentiate our solution by offering high quality, high performance networked radios that are priced competitively in the marketplace,” he said.

Positioned for growth

TruNet was launched to the market this spring. Customer demonstrations will take place this summer. Production of the radios will predominately take place in Cedar Rapids, Iowa, and is expected to begin in 2017.

Jones said our company’s commitment to the development of this next-generation radio system aligns with our strategy to accelerate growth.

“TruNet is an important growth driver in our GS communications business,” he said. “The ground and air software-defined radio markets are growing globally, and we want to participate in that growth. And by having a solution that’s expandable, we are in a good position to take advantage of future opportunities as they come up.” ■

By Annette Busbee

A better way to train

New research reveals the benefits to the U.S. military of integrating live training with virtual simulation.

Embedded with the U.S. Army's 173rd Airborne Brigade Combat team in the Kunar Province of northeast Afghanistan, U.S. Air Force Staff Sgt. Travis Klopfenstein hunkered down beside the Army ground commander he was assigned to support.

As the Tactical Air Control Party (TACP) member and Joint Terminal Attack Controller (JTAC), Klopfenstein's role during this particular tour of duty was to communicate with and direct the action of the combat aircraft sent to provide close air support.

Although Klopfenstein — now a principal account manager at Rockwell Collins' Simulation and Training Solutions (STS) facility in Orlando, Florida — was well-versed in his liaison role, this was the first time he had worked with a French Mirage fighter pilot.

"I had PowerPoint knowledge of the capabilities of the Mirage, but I had never worked with a French pilot before," said Klopfenstein, recalling the 2008 mission in the Kamdesh Valley. "I never had a chance to train with a French Mirage or

pull it up in a simulator, and there I was in a combat scenario talking to the pilot for the very first time."

Situations like the one Klopfenstein found himself in — coupled with continued U.S. Department of Defense (DoD) budget cuts and the rapidly evolving nature of warfare — are why Klopfenstein and his colleagues at Rockwell Collins are encouraging military officials to reassess how their personnel are trained.

"We're not in the days of old where we're sending in quantities of troops on the ground," said Klopfenstein. "It's very coalition-centric and more strategic and precise than ever before. Precision itself means you've got to be tightly correlated, you've got to have tight communication and everybody needs to know what the other person is doing in order to have mission success."

Klopfenstein believes this scenario is made for virtual simulation.

Realistic and affordable solution

Earlier this year, Rockwell Collins unveiled new research regarding the potential benefits associated

Travis Klopfenstein, a principal account manager at our Simulation and Training Solutions facility in Orlando, Florida, uses a simulated laser range finder to locate a target during a recent training demonstration. He then sends that targeting information to the real L-29 jet (see photo next page) via our networked joint fires software, and the L-29 can then conduct a live attack run on the simulated target.

with the integration of virtual simulation into U.S. military training regimens.

Funded by our company and conducted by the Government Business Council (GBC), the research — “Going Virtual to Prepare for a New Era of Defense” — concluded that increasing levels of virtual training can help the U.S. military better prepare for new challenges while potentially reducing costs by more than \$1.7 billion over five years.

“This research has uncovered some remarkable data that underscores the value of blending live and virtual training,” said LeAnn Ridgeway, vice president and general manager of STS in Sterling, Virginia. “It also validates our company’s efforts to expand the capabilities of simulators and explore how the military can make the best use of available live flight hours, given the impact of budgetary realities.”

According to Nick Scarnato, director of Marketing and Business Development for STS, Rockwell Collins customers — including the DoD — have been wanting to “train like they fight” for many years. However, the ability to do so requires a great deal of time and money, both of which have been hindered by recent global economic constraints.

“I think everybody understands the notion that it’s more cost-effective to do virtual or constructive exercises than it is to do live training,” said Scarnato. “But not everybody is on the same page as to the readiness level that virtual and constructive training provides. There is still a broad range of military leaders who don’t believe training in a simulator looks, feels or acts the same as training in a real aircraft.”

To illustrate and underscore the fact that our company is well-suited to blend those trainings to provide customers with a realistic and affordable solution that meets their needs, Rockwell Collins recently conducted a Live, Virtual, Constructive (LVC) simulation and training exercise in Sterling.

Engineers from STS and our Advanced Technology Center (ATC) led the demonstration that featured a real L-29 jet from The University of Iowa’s Operator Performance Lab that was equipped with LVC simulation technology. In this scenario, the L-29 in Iowa flew as the lead aircraft while its wingman flew an F/A-18 simulator in Sterling. Klopfenstein also was in Sterling



Tom Schnell, director of the Operator Performance Laboratory at The University of Iowa, pilots an L-29 jet equipped with Live, Virtual, Constructive (LVC) simulation technology during a recent training exercise. The University of Iowa and Rockwell Collins have collaborated on several LVC training demonstrations, studies and contracts.

and participated as the JTAC, generating targeting information from our Litening Targeting Pod simulator.

“Connecting live and virtual players, bridging the gap across distance and time, and reducing errors through training is what this is all about,” said Ridgeway. “We want to bring the men and women protecting our freedom back home to their families.”

More work to do

Rockwell Collins has been demonstrating “train like you fight” training scenarios for the warfighter for the past four years during the Interservice/Industry Training, Simulation and Education Conference (IIITSEC). However, this is the first time that our company has solid data indicating the demand for and benefits of blending live and virtual training.

“We’re working hard to solve problems for our customers, and this study is generating a lot of excitement and momentum around bringing this to fruition,” said Dr. Angus McLean, a principal systems engineer in ATC. “We’re taking today’s technology and using it to show what the next generation of ‘train like you fight’ will look like.”

According to Scarnato, the fact that Rockwell Collins brings so many different innovative solutions to the marketplace — more than core avionics and core communications — is what differentiates our company and is helping us stand out from our competitors.

“We’re also a provider of simulation products such as Image Generation Systems, Visual Display Systems,

Radar Simulation Systems and Sensor Simulation,” said Scarnato. “And our Surface Solutions portfolio — which is in our Government Systems business — delivers data link technology and secure communications.

“Additionally, we have ATC working to ensure all engineering resources are focused on a common goal. So, this is a collaborative effort across the entire enterprise,” he continued.

Despite the progress that’s being made, Ridgeway admits there are still a few key technology gaps that need to be addressed to move LVC forward sooner rather than later. The most notable gaps are around the need for multiple levels of security, very high speed data link capabilities and cyber security.

“You’ve got to be able to have channels of communication moving all of this information from platform to platform, air to ground, vehicle to vehicle, and you’ve got to be able to separate and keep those communication lines secure,” she explained. “We also live in a data-rich environment, so we need to have the ability to move that data across the pipeline faster than ever before. And we need to ensure the wrong people can’t hack into those networks.”

Ridgeway said Rockwell Collins and the aerospace and defense industry as a whole are working to close those gaps while also establishing an open architecture in which all armed forces can plug-and-play together in the training environment.



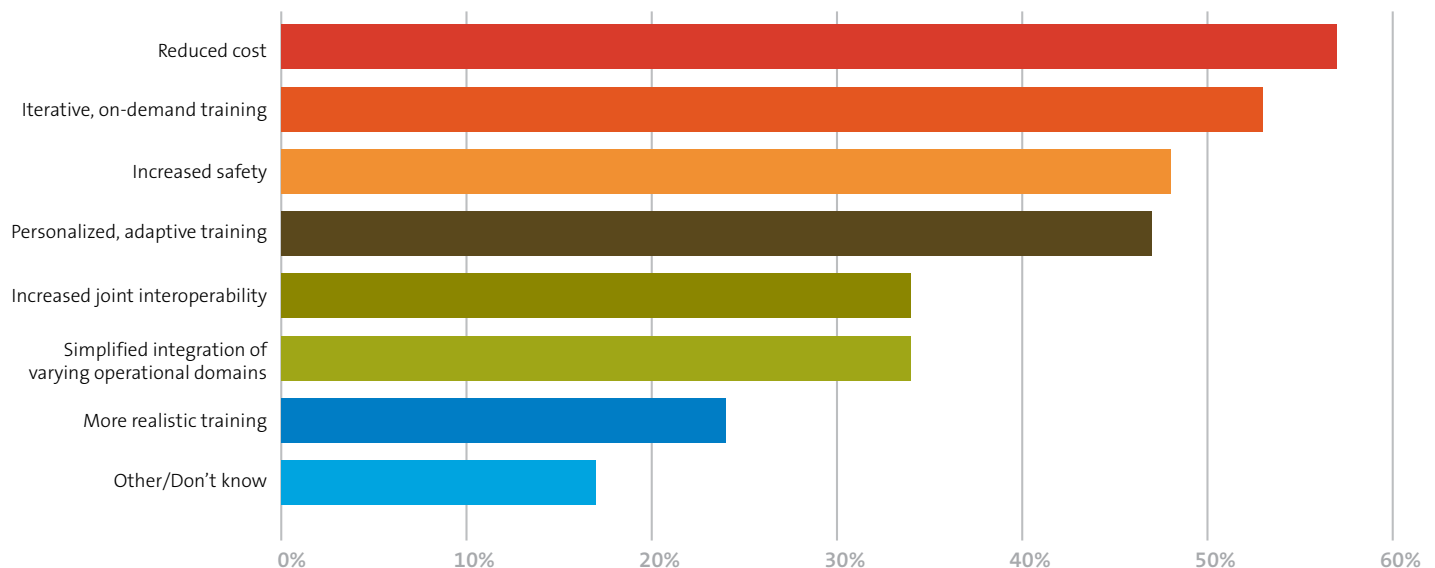
Rockwell Collins conducts demonstrations linking our flight simulator on the ground with a live aircraft operating in Federal Aviation Administration airspace. In this photo, Loyal Pyczynski, a principal marketing manager in Simulation and Training Solutions, sees the live aircraft from the pilot’s seat on the simulator. In turn, the pilot of the aircraft sees the flight simulation via a Link 16 or a radar track. With our technology, both pilots can exchange digital messages and practice flying various missions.

For Klopfenstein, the path forward is exhilarating. He relies on his personal experiences to communicate the importance of providing a training environment that replicates what warfighters will experience in combat. It’s a mission he takes to heart.

“We all share the same training vision. In the back of our minds, we keep the stories of the soldiers who sacrificed so much. These men and women gave their lives for what they believed in,” said Klopfenstein. “We want to give our warfighters the best training possible so they accomplish the mission and get home safe.” ■

By Jill Wojciechowski

Benefits of integrating live and virtual training



Source: Government Business Council Survey



Border watch

Rockwell Collins' ARINC Border Management System helps governments better monitor air travelers entering their countries.

Rockwell Collins' ARINC Border Management System (ABMS) is quickly becoming recognized as a leading technology for assisting governments in better monitoring who enters their countries. The goal, of course, is to increase security. The solution provides analysis and deciphering of Advance Passenger Information (API) data, which is required for the millions of people traveling via commercial aircraft to or from more than two dozen countries.

ABMS enables government and airport authorities to review passenger data before a commercial aircraft takes off or lands by using the API data, along with Passenger Name Records (PNR) and watch lists. ABMS gives government entities the information they need to make informed decisions about every traveler. The system links the data with controlled entry and exit procedures to stop travelers at the border, deny boarding when necessary, and track travelers during their time in-country.

According to Ken Schreder, managing director of Networks and Managed Services, this not only enhances overall border security and control, but optimizes passenger flow.

"Many governments want increased insight into the people and goods that are coming into their countries,"

said Schreder. "This solution enables them to do that — combining traditional border control with the enhanced ability to identify anyone who might present a risk to the country."

Today, more than 25 government entities around the globe use our ABMS solution, including several recent customers in Latin America and Asia.

According to John Kim, senior program manager for Network Solutions, more and more agencies are depending on API data, creating increased opportunities for our solution in the marketplace.

"Within individual countries, intelligence agencies need it, as well as immigration and customs departments. It's changing how we market and sell this solution around the world," said Kim.

Both Kim and Schreder say they see potential for applying ABMS to other modes of transportation such as trains and cruise ships.

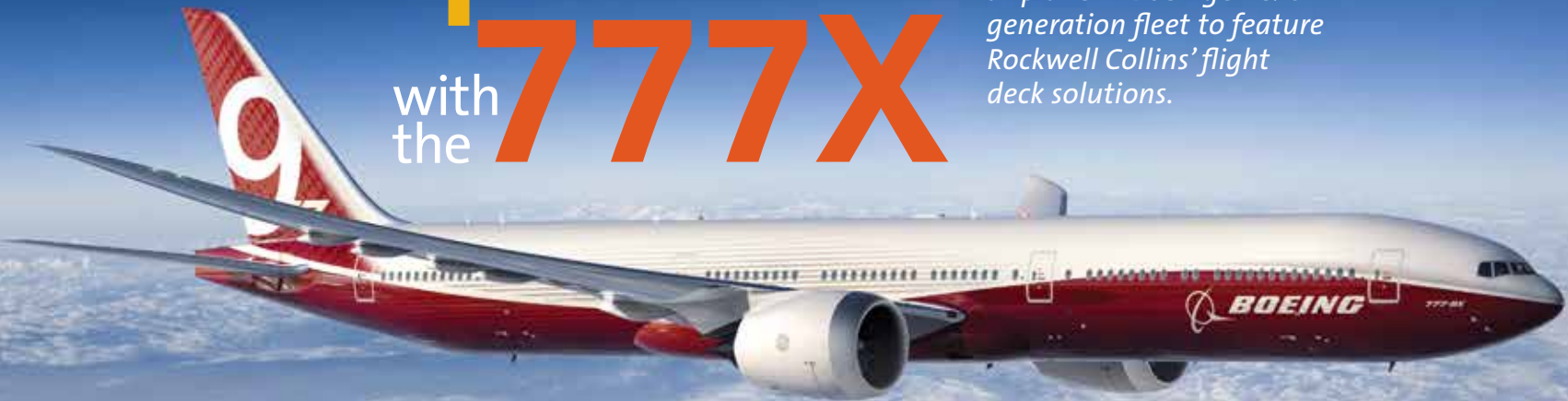
"Very few companies can compete with our secure, managed network and the adaptability of this product," said Schreder. "The future of ABMS looks very bright as we continue to offer enhanced features and capabilities." ■

By Megan Strader

Triple win

with the 777X

The new 777X is the third airplane in Boeing's next-generation fleet to feature Rockwell Collins' flight deck solutions.



Almost two years before Rockwell Collins was awarded the major flight deck contract for Boeing's 777X aircraft, preparations began at our Manchester, Iowa, facility for the possibility that we would win the program.

The Manchester facility is our manufacturing Liquid Crystal Display (LCD) Center of Excellence, and planning was already underway for the production of large-format flight displays for Boeing's 787 Dreamliner and 737 MAX.

According to Derek Owen, a senior operations product transition manager, the scope of those preparations was broadened to include the 777X.

"We utilized lean tools to free up floor space where the displays for the 777X would be built," said Owen. "We also spent a significant amount of time driving process and design improvements and reviewing the critical details of this product to ensure all aspects of the value stream were optimized for superior customer satisfaction."

When Rockwell Collins received the award for the 777X in December 2014, the approximately 250 employees in Manchester were excited and ready.

The production rate of the large-format displays for all three of Boeing's next-generation aircraft will slowly increase until 2017. Then, the numbers increase dramatically to approximately 305 a month in 2018.

"When we deliver our first large-format displays for the 777X in a few years, we'll be reaching full-rate production for the 787 and 737 MAX," said Owen.

"We'll be prepared to handle it."

Building on a trusted partnership

Winning the 777X award not only generated excitement in Manchester, but throughout the enterprise, as well.

Rockwell Collins now has major content on all three of Boeing's family of next-generation airplanes. This achievement is part of a larger strategy to accelerate our company's growth by increasing our market share on new air transport platforms, according to Steve Timm, vice president and general manager of Air Transport Systems.

"The award speaks to the strength of our trusted partnership with Boeing," said Timm. "By supporting this customer and innovating to solve problems, we've been able to build on our partnership in a way that will provide long-term benefits to our company, our employees and our customer."

The 777X aircraft will feature five configurable 15.1-inch landscape LCDs, our integrated surveillance system, and select flight controls as standard equipment. And for the first time on a 777 platform, our dual Head-up Guidance System (HGS™) will be offered as an option.

In addition to the flight deck content, Rockwell Collins and our partner, BAE Systems, were selected to provide the entire fly-by-wire flight control electronics system. Together, these awards rival the content we provide Boeing for the 787 and triple the amount of supplier-furnished equipment we have on the 777X compared to previous generations of the airplane.

The awards also represent a significant market share gain for Rockwell Collins, Timm said, potentially worth approximately \$2 billion in sales for our company over the life of the program.

The pursuit strategy

Landing the flight deck award was approximately a two-year process and involved countless individuals in Commercial Systems. According to Bob Schultze, a principal programs manager for Boeing platforms and a member of the pursuit team, the aircraft manufacturer wanted a mature, updated avionics system that wouldn't be a burden or a high risk to the program.

"One way to accomplish that would have been to reuse and upgrade the existing system that's on the legacy 777," said Schultze. "Our challenge was to help Boeing realize the best solution for the 777X was to use our architecture that's on the Dreamliner."

The pursuit team frequently traveled to Boeing's facility in Everett, Washington, to meet face to face with the company's engineering and procurement agents. Key to our pursuit strategy was to clearly define the value of the commonality Rockwell Collins would bring from the 787 to the 777X.

"We would update our technology that's on the Dreamliner for the 777X," said Schultze. "But our solutions also would be common to the point that there would be combined value across the two platforms, as well as with

the 737 MAX. We needed to illustrate the dramatic cost savings that would be achieved with common processes and procurement. Plus, any future product enhancements could be rolled easily into all three platforms."

Additionally, Boeing's customers would realize savings with common spare parts, equipment, maintenance and pilot training time on all three aircraft, keeping the airplanes in the air and making money.

Schultze said it was a great moment for him when he received the news that Rockwell Collins had won the 777X award.

"It speaks to the faith Boeing has in Rockwell Collins," he said. "Now we need to execute and deliver what we promised."

For Mark Fejfar, avionics engineering lead on the 777X and a member of the pursuit team, winning the flight deck contract presents the greatest opportunity in his 28-year career at Rockwell Collins — the ability to innovate advanced solutions for an entire fleet of aircraft.

According to Fejfar, barriers that typically occur when aircraft have different types of displays or user interfaces are diminished or eliminated when you have flight deck commonality.

"By having that common vision and design, we can work with Boeing to develop the next great innovation that can aid pilots or enhance passenger safety at a fleet level," said Fejfar. "That's very exciting."

Continued on page 14

Jazz Husmann holds a large-format flight deck display in the clean room at our facility in Manchester, Iowa. A dry film lamination process is used in this room to ruggedize our liquid crystal displays for aircraft applications.



Flight deck commonality...

Rockwell Collins is advancing mature technologies from previous Boeing aircraft for the 777X.



777

- Flight Controls
- Communication and Navigation Radios
- Payload Equipment



787 Dreamliner

- Displays and Crew Alerting System
- Pilot Controls
- Integrated Surveillance System
- Audio System
- Head-up Guidance System (optional for 777X airline customers)

an uncommon advantage



737 MAX

- MAX Display System
- Communication and Navigation Radios

Focus on quality

Teams across Rockwell Collins are involved in developing and producing our solutions for the 777X. For example, display components and graphics are being developed at our Head Down Display Center in Cedar Rapids, Iowa; the integrated surveillance system at our facility in Melbourne, Florida; the Head-up Guidance System in Wilsonville, Oregon; and the pilot control center pedestal in Tustin, California.

Facilitating collaboration and communication across all the life cycle value stream (LCVS) teams involved with this program is a major focus for Nic Jaeger, principal program manager for the 777X. That is key to keeping our momentum with this customer.

"We've worked hard to establish a trusted partnership, but there's more to be done to continue to improve from a customer satisfaction perspective," said Jaeger. "We strive to get it right the first time so there's no disruption in deliveries to the customer."

Delivering quality products on schedule is critical to helping Boeing achieve its production numbers. To date, the aircraft manufacturer has 300 orders and commitments for the 777X. Production is scheduled to begin in 2017 with first deliveries scheduled for 2020.

"We must execute flawlessly at every stage of this program," said Jaeger. "And we have some of the best employees in the world to do that because they care about quality."

That includes our employees in Manchester. It's been nearly 62 months since Manchester has had a facility-caused quality escape to an end customer. With the ramped-up production schedule ahead, Owen said employees are even more focused on improving their processes so that they can execute flawlessly.

"We're privileged to be part of the 777X program and, like everyone at Rockwell Collins, we're excited about what this means to the growth of our company," he said. ■

By Annette Busbee

Our evolving fly-by-wire technology

The 777X fly-by-wire award comes after decades of leadership and innovation in flight controls.

When Boeing selected Rockwell Collins and BAE Systems to provide the fly-by-wire system for the 777X, it marked a significant business achievement and an important technological milestone for our company.

Fly-by-wire replaces mechanical flight controls — typically consisting of pulleys, bell cranks and cables — with wires. The benefits include weight savings, increased performance of the aircraft and reduced pilot workload, according to Bruce Dalton, a principal program manager in Flight Control Electronics.

"With wires, more surfaces of the aircraft can be controlled via the computing system without pilot input," said Dalton. "This enables the aircraft to react instantly to changing aerodynamic conditions providing a smoother ride and enhanced safety."

Rockwell Collins is designing the Flight Control Module (FCM) for the 777X fly-by-wire system. The FCM hosts our state-of-the-art computing system for all the applications of the Integrated Flight Control Electronics (IFCE). This includes the autopilot/autoland and the maintenance for the flight control systems designed by Rockwell Collins. It also includes the software designed by BAE Systems, the prime supplier for the IFCE.

A comeback

Surprisingly, a key reason that we won the 777X award might have been due to a contract we didn't get. In 2004, Rockwell Collins was not selected to deliver the flight controls on Boeing's 787 Dreamliner.

With the 787, Boeing integrated all flight control functions into one computer, according to John Roltgen, a technical project manager and Fellow in Flight Control Systems. Although our computer processors at that time were great for high-integrity applications, the extensive and complex flight control functions that this computer would have to host required a significant increase in throughput to those processors.

"That was not cost-effective with our technology at that time," Roltgen recalled.

As a result, a strategic decision was made by Rockwell Collins to invest in the development of innovative, high-integrity computing platforms for fly-by-wire. The Flight Control Electronics team in Cedar Rapids focused on a concept for using two, dissimilar off-the-shelf processors to handle the intricate flight control functions. Our engineers created a technology that enabled the processors to produce exactly the same digital outputs, thus ensuring a safe operating system. This avoided extensive engineering efforts required in prior systems to get the outputs of the two processors to closely agree.

"This innovation was a market differentiator for us," said Roltgen. "Our legacy in flight control and avionics systems positioned us to introduce this technology to the market."

Success came in 2008 when Mitsubishi Heavy Industries selected our Primary Flight Control Computer (PFCC) for the fly-by-wire in the Mitsubishi Regional Jet (MRJ). Two years later, Bombardier chose our PFCC for the fly-by-wire system in its CSeries regional aircraft.

Ongoing development

The team worked with system and software engineers from the India

Design Center in Hyderabad on development of the advanced system for the MRJ and CSeries airplanes. One of the benefits of this teaming arrangement capitalized on the time zone difference between the two locations. By transferring time critical tasks between the two facilities, engineers were able to work on the project a full 24 hours a day to meet development deadlines.

"We continued to build on the technology in those regional aircraft to develop the FCM for the 777X," said Roltgen. "We added additional input/output capability to handle the common data network that manages the information flow. And we enhanced the computational capability. As a result, our solution supports Boeing's goal of a 777X aircraft that saves fuel and optimizes performance even through challenging environments."

This award solidly positions our company for future fly-by-wire flight control electronics business on all classes of commercial aircraft, according to Sam Ezran, director of Flight Controls.

"Fly-by-wire will be the flight control system of choice for all large, new air transport aircraft," said Ezran. "With this win we gain credibility that establishes us as a market leader for high integrity fly-by-wire computing platforms." ■

By Annette Busbee



Testing the functions of our flight control module for the 777X fly-by-wire system are (from left) John Roltgen, Bruce Dalton, John Sohn and Jim Logsdon.

Big business in low-cost carriers

With a spike in the number of low-cost carriers across the globe, Rockwell Collins has found a winning strategy for capturing this business.

When it comes to purchasing an airplane ticket, most people want to find the best value for their money. That's the impetus driving the booming worldwide low-cost airplane market. It's also part of the strategy Rockwell Collins is using to win major contracts with these airline companies.



Jim Walker

Jim Walker, vice president and managing director of Asia Pacific for Rockwell Collins, sits in the epicenter of this bustling market. With more than half of the world's population and a burgeoning middle class, low-cost carriers (LCCs) are thriving in countries like China, Indonesia and India. And Rockwell Collins has been able to capitalize on the growth of LCC airlines in this region.

"We've learned that winning contracts with these airlines boils down to one of the most basic elements of sales — offering the best value for the money," said Walker. "Our products are regarded as top in this market, so low-cost carriers know they're getting quality solutions."

And with commercial airline traffic rapidly expanding in the Asia Pacific region, these airlines understand the need for proven, advanced communication, navigation and surveillance avionics, Walker added.

Numerous low-cost airline companies have selected Rockwell Collins to provide our avionics, weather radar and navigation solutions. One of the largest orders in our company's history came last year from Indonesia's Lion Air. This LCC selected a comprehensive suite of our avionics for 234 of its Airbus A320 aircraft, including the MultiScan™ Threat Detection System and the GLU-925 Multi-Mode Receiver (MMR), the first GPS Landing System receiver. Earlier this year, India-based airline, IndiGo, also selected our advanced avionics systems with MultiScan Threat Detection System and MMR for its Airbus A320neo (new engine option) family of aircraft.

Aftermarket services are key

In addition to quality products, our low-cost airline customers also realize value from our aftermarket services, according to Walker. They pay close attention to how companies, such as Rockwell Collins, are ranked on



customer support surveys like those issued by original equipment manufacturers (OEMs) Boeing and Airbus.

In 2014, Boeing named Rockwell Collins the number one aftermarket supplier. Similarly, Airbus gave our company its “Gold” award — a recognition for best in-service performance. Walker noted that these recognitions are due, in part, to team members who are taking care of our customers.

“We have support engineers around the globe working alongside these airlines to keep their planes in the air,” said Walker. “These engineers are building strong relationships at the same time. That’s another key differentiator for Rockwell Collins that has helped us be successful in this market.”

Strong market outlook

The LCC market isn’t only thriving in the Asia-Pacific region, according to Colin Mahoney, senior vice president, International and Service Solutions. Globally, LCCs make up nearly a quarter of the worldwide market share versus full service airlines. These numbers are even greater in EuMEA (Europe, Middle East and Africa) where LCCs make up nearly a third of the market. Last year, Spain-based Vueling Airlines chose a host of Rockwell Collins avionics for its new fleet of 62 Airbus A320 aircraft.

In the Americas region, our company’s avionics were selected by Mexico-based VivaAerobus for its 52 new Airbus A320 airplanes.

“We expect to compete for more than a billion dollars of buyer-furnished equipment this year — one of the biggest competitive environments we’ve seen,” said Mahoney. “Of that billion dollars, we expect a third will be with low-cost carriers.”

And while Mahoney said he doesn’t expect the number of planes being purchased by LCCs to continue at its current rate, many of the carriers are choosing to buy or lease airplanes based on warranty periods to save money on repair costs. This creates revenue potential because once the warranty expires, the aircraft is sold or returned to the owner from whom it’s leased and replaced with a new plane and a new warranty.

Mahoney said our focus today is on how to keep Rockwell Collins at the top of the LCC market.

“The market isn’t new but there’s more at stake than ever before. There’s more hunger in our competitors which means we need to fine tune our strategy,” said Mahoney.

That includes building even closer affinities with these customers and clearly articulating the Rockwell Collins value proposition.

“The demand is there and so is our drive to continue to win the business,” added Mahoney. ■

By Megan Strader



Celebrating innovative achievements

Engineers at Rockwell Collins who have made significant contributions to our company through technical creativity and innovation are recognized annually through our Engineer of the Year Program. The stories of our corporate winners and finalists, who were nominated by their peers or leaders, showcase leading-edge products and technologies that are creating competitive differentiation in our global marketplace and accelerating our growth.

ENGINEER OF THE YEAR WINNER

Carlo L.M. Tiana

Commercial Systems


Fresh off a previous Engineer of the Year nomination for his work on another vision-system program, Principal Systems Engineer Carlo Tiana was already taking his inventiveness somewhere new.

This time, his nomination comes from his contributions to the Enhanced Vision System (EVS). An EVS camera detects infrared energy given off by many elements on the landscape a pilot encounters during the landing phase of flight. The camera can capture the infrared signatures of terrain, buildings, vehicles, runway lighting and even wildlife that might have wandered onto a runway. The system then portrays these signatures on the head-up or head-down display as a clear, real-time image of the approach and landing environment.

On a head-up display, the EVS image can replace the pilot's natural vision, overlaying an image of the outside world. Pilots can "see through" low visibility during one of the most critical flight phases.

"Passengers on EVS-equipped aircraft will be able to get home when the weather is bad, instead of diverting to another airport," Tiana says.

His work leading the research and concept development and design of EVS will benefit passengers, pilots, aircraft owners and airlines. The new EVS product line has the potential to generate significant annual revenues for Rockwell Collins over the next decade. Meanwhile, Tiana continues to look for new ways to leverage Rockwell Collins technologies, including combining weather radar with synthetic vision to enable visual landings in the worst weather conditions.

A man in a light blue shirt and dark tie sits in a cockpit, interacting with a control panel. The cockpit features multiple monitors displaying various data and a large orange leather seat. The background shows a desert landscape through the cockpit windows.

ENGINEER OF THE YEAR WINNER

Jonathan R. Demildt

Government Systems

When a key customer needed an avionics system that combined the advanced capability and cost effectiveness of commercial technology with mission-related features required for government customers, the Rockwell Collins pursuit team turned to Jonathan Demildt as the system lead and architect.

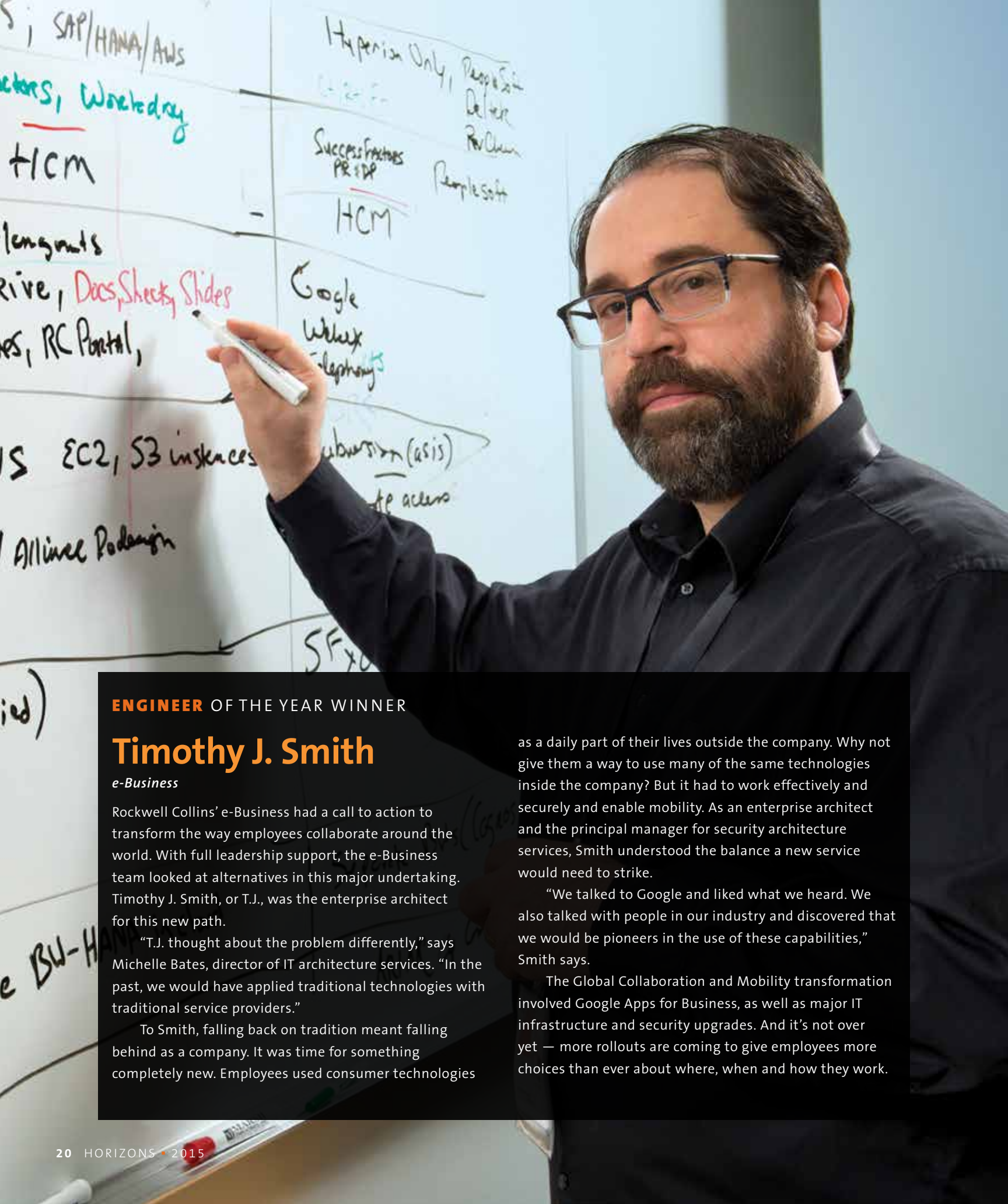
"We brought value to the customer by sitting with them to understand their vision and mission for the aircraft, then designing a system that would fit their needs and allow them to sell more aircraft to more customers," Demildt says.

The solution uses Rockwell Collins' Pro Line Fusion® integrated avionics system. Pro Line Fusion is well known in the commercial aircraft industry; applying its strengths in this dual-use aircraft environment will enable new customers in new markets to benefit from its advantages.

With his engineering experience on government and civil projects, Demildt had the knowledge of both military aircraft and the civil certification process. He also worked with Commercial Systems to understand product lines and how to integrate their baseline capabilities into a missionized solution.

Demildt's well-rounded expertise and leadership were instrumental in giving the customer confidence that Rockwell Collins could meet an aggressive certification schedule.

"The capture of this business was a major achievement," says Brett Caspers, principal engineering manager. "It lays the groundwork with a major manufacturer. We will take its technical solution forward across other airborne pursuits."



ENGINEER OF THE YEAR WINNER

Timothy J. Smith

e-Business

Rockwell Collins' e-Business had a call to action to transform the way employees collaborate around the world. With full leadership support, the e-Business team looked at alternatives in this major undertaking. Timothy J. Smith, or T.J., was the enterprise architect for this new path.

"T.J. thought about the problem differently," says Michelle Bates, director of IT architecture services. "In the past, we would have applied traditional technologies with traditional service providers."

To Smith, falling back on tradition meant falling behind as a company. It was time for something completely new. Employees used consumer technologies

as a daily part of their lives outside the company. Why not give them a way to use many of the same technologies inside the company? But it had to work effectively and securely and enable mobility. As an enterprise architect and the principal manager for security architecture services, Smith understood the balance a new service would need to strike.

"We talked to Google and liked what we heard. We also talked with people in our industry and discovered that we would be pioneers in the use of these capabilities," Smith says.

The Global Collaboration and Mobility transformation involved Google Apps for Business, as well as major IT infrastructure and security upgrades. And it's not over yet — more rollouts are coming to give employees more choices than ever about where, when and how they work.

Engineer of the Year finalists



Nathan P. Lower, Ph.D.

Engineering and Technology

Lower's technical leadership advanced the ZFAB microfabrication technology development during a critical period when several high-value programs relied on it. His invention enabled miniaturized microwave components with size, weight, power and cost advantages.



Emmanuel F. Caestecker

International and Service Solutions

Caestecker optimized software for Rockwell Collins' next-generation direction finder product line. One notable enhancement included developing a new algorithm that could save more lives by providing 3D bearing indications to search-and-rescue crews.



Brent J. Nelson

Commercial Systems

Nelson developed network software and tool solutions for Pro Line Fusion® programs, notably for the King Air. His work helped greatly reduce network configuration and certification costs, which will positively affect as many as 14 future Pro Line Fusion programs.



Matthew P. Corbett

Commercial Systems

The Boeing 737 MAX Display System that Corbett architected delivers advanced capabilities while reducing complexity and enterprise-wide program costs. Reusability of these technologies was a key factor in our Boeing 777X display program win.



Terrence P. Ward

Information Management Services

Ward architected two key features of our ARINC AviNet® global messaging system: Virtual Application Message Queuing and the Aviation Message Router. These features enable delivery of application software modules and queuing elements to a customer site or ARINC cloud, reducing cost and deployment times.



Bobby D. Foote

Government Systems

Foote led key initiatives on projects related to digital night vision, colorized night vision and helmet mounted displays. His work advanced capabilities in these areas, including next-generation technology development for the F-35 Gen III Helmet Mounted Display System.



Kathleen R. Wenthe

Government Systems

Wenthe's persistent drive for excellence improved the accuracy of the Time, Space and Position Information module in our Common Range Integrated Instrumentation System (CRIIS). Her tenacious contributions enabled CRIIS to meet stringent requirements for weapon-system testing and training. ■

Developing talent and future leaders

Formal and informal job rotation programs are building new perspectives and helping employees find the right job fit.

The job descriptions read like recruitment materials for an international league of superheroes:

“Searching for new additions to join our team located throughout the world... The ultimate goal is to develop talent... The knowledge is open to those who have a strong desire to test the limits of their potential...”

And the work locations wouldn’t suggest otherwise: Singapore. Hyderabad, India. Heidelberg, Germany. Reading, England. Sterling, Virginia.

But these job descriptions are for positions in Rockwell Collins’ various job rotation programs. And they’re attracting some of the brightest minds in the company.

Walker McBride

Walker McBride knows his rotation program, and he speaks the language with enthusiasm.

“The Operations Rotation Program is a formal development program designed to build future leadership strengths for Rockwell Collins,” he recited verbatim.

McBride joined Rockwell Collins in June 2012 as an undergraduate intern on the procurement team where he assisted with build-to-print request for proposals and purchasing test equipment.

“Coming out of my internship, I knew I wanted to find the type of work I was passionate about,” he recalled. “You just don’t know that right out of school. I think this program will help me discover that.”

Finding the right career path

McBride, now on rotation as a manufacturing project specialist in Richardson, Texas, is not alone in his thinking. And Rockwell Collins is adapting to that sentiment to ensure the personal and professional growth of our employees and to strengthen the company’s workforce as a whole.

The challenge is replacing the large number of baby boomers who are retiring. By 2020, 18 percent of our workforce will have turned 62 and be eligible for

retirement. This creates the need to recruit, train and retain talented employees.

According to Beth Regan, a senior global mobility specialist in Human Resources, job rotation programs can help meet that need.

“As a company, we recognize that attitudes about work are changing,” said Regan. “People want to find the career that’s right for them. And they want to do it by ‘experience hopping’ — trying out lots of different jobs in different locations. Through a job rotation, they can try out several positions across the United States — and around the world — without leaving the company.”

Job rotation programs are not new to Rockwell Collins. The Finance Rotation Program has been operating formally since 1959. Former participants from this program include current leaders Tatum Buse, vice president of Finance and corporate controller; Steve Buesing, vice president and controller, Commercial

Walker McBride is taking part in a three-year job rotation program in Operations.

Systems; and Duane Sadler, vice president and controller, Government Systems.

These programs have been very successful and are available across the enterprise. At the India Design Center, employees use their rotation program to share specialized knowledge and build face to face, cross-cultural relationships. In the Europe, Middle East and Africa (EuMEA) region, participants rotate around a number of facilities in France, Germany and the United Kingdom to share best practices and develop connections with colleagues.

Today, the success of these formal programs is leading the way for the creation of more informal ones. For example, in Commercial Systems development is under way for new rotation roles in Marketing and Customer Support.

“It’s purposeful growth for employees across the enterprise,” added Regan.

Erin Eggum

Erin Eggum can tell you a lot about purposeful growth. She can quickly offer a short list of skills she’s gained in the Finance Job Rotation Program: analysis, strategic thinking, forecasting, project management and converting data to information and insights.

She also took full advantage of one of the program’s more exciting perks — living and working internationally.

“Working in Finance in Reading was such a great opportunity to learn about our international business and interact with employees across several different time zones and cultures,” said Eggum, who is in the last year of her rotation working as a financial analyst in Cedar Rapids, Iowa. “I learned to communicate effectively, ask clarifying questions and be flexible and adaptable. That’s been valuable in my current role working with colleagues in the United Kingdom and Australia.”



New skills benefit employees and Rockwell Collins

Eggum and McBride agreed that their rotations helped them understand how the business units are interconnected within the company.

“When you’re down in the trenches grinding away on a project, it’s easy to stay focused on your own little area,” said McBride. “But now I can see that Operations is just one leg of the table and, better yet, I can see how it fits into the entire enterprise.”

Plus, he said, the skills and experience gained through job rotation programs are invaluable to professional growth.

“The team and leaders in my rotation have given me opportunities to work on projects that are critical to the success of the organization and have been instrumental in my personal development.”

Added Eggum, “You start the program learning to train and be trained. You leave knowing the best position for you to grow your career and, at the same time, use your skills to benefit the company.” ■

By Libby Waterbury and Annette Busbee

Erin Eggum took the opportunity to travel throughout the United Kingdom during her Finance job rotation at our Reading, England, facility.

For information on job rotation programs in your organization, contact your leader.



Pro Line Fusion® is now available for commercial helicopters.

Pro Line Fusion® for helicopters makes its debut

Rockwell Collins' Pro Line Fusion® integrated avionics system entered the commercial helicopter market at HAI HELI-EXPO in Orlando, Florida.

Featuring advanced graphical touch-screen interfaces, intuitive icons and easily configurable multi-function display windows, Pro Line Fusion provides pilots with the right information in the right place. Now, pilots can more naturally and effectively stay focused on the mission during all phases of flight and in all flying conditions. ■

New ARINC MultiLinkSM flight tracking service introduced

One year after the disappearance of Malaysian Airlines Flight 370, Rockwell Collins has unveiled its new ARINC MultiLinkSM flight tracking service, offering a comprehensive and cost-effective global flight tracking solution for the world's airlines.



ARINC MultiLink merges multiple data sources to provide a comprehensive global flight tracking solution for airlines.

ARINC MultiLink combines information from multiple streams of data already available to airlines — including radar, high-frequency data link (HFDL) performance data, Automatic Dependent Surveillance-Contract (ADS-C) and ACARS — to reliably report the location of an aircraft anywhere in the world. The service also notifies airlines if an aircraft unexpectedly stops reporting positional data or when an aircraft has deviated from its expected path.

ARINC MultiLink will be offered as an add-on to our ARINC OpCenter/WebASDSM and Hermes/Skyview™ services. ■

Acquisition of Pacific Avionics expands information management offerings

Rockwell Collins acquired Pacific Avionics Pty Limited, a Singapore-based company specializing in technologies used for wireless information distribution, including in-flight entertainment and connectivity (IFEC).

Pacific Avionics' powerful wireless cabin intranet and internet connectivity platform will be integrated into Rockwell Collins' portfolio of cabin products and services, bringing airlines a number of advanced capabilities. Those capabilities include the ability to stream video content to more than 250 passengers simultaneously, a flexible architecture to support an array of apps and services, and faster wireless speeds onboard the aircraft. ■

Rockwell Collins and Zen Technologies enter India's military flight simulation market segment

Rockwell Collins and Zen Technologies announced their joint entry into the military flight simulation market in India by unveiling a next-generation rotary wing simulator at Aero India in Bangalore.

In October 2014, the two industry leaders signed a memorandum of understanding to combine their strengths in simulation and training to offer advanced and high fidelity aviation solutions.

The co-developed helicopter simulator features an ergonomically-designed cockpit. It is configurable and fully addresses both the flight and mission aspects of rotary wing aircraft. ■

New U.K. search and rescue program features Rockwell Collins avionics

Rockwell Collins' newest helicopter technologies will be featured on a fleet of specially commissioned search and rescue (SAR) aircraft for Bristow Helicopters Ltd. on behalf of the Maritime and Coastguard Agency for the United Kingdom's SAR program. The fleet includes 11 Sikorsky S-92® helicopters and 11 AgustaWestland AW189 helicopters.

The program will be the first to use Rockwell Collins' HeliSure™ flight situational awareness capabilities, such as Traffic Alert and Collision Avoidance and synthetic vision, as well as the latest night vision technologies. ■





Exciting robotics competition at *FIRST*® World Championship

More than 20,000 students from around the world gathered in St. Louis, Missouri, last month for the 2015 *FIRST*® World Championship. The event is the culmination of the *FIRST* season of robotics competitions held throughout the school year.

Rockwell Collins is one of the major sponsors and strategic partners of *FIRST* (For Inspiration and Recognition of Science and Technology) that promotes science, technology, engineering and math (STEM) education to the next generation of innovators.

CEO and President Kelly Ortberg and Nan Mattai, senior vice president of Engineering and Technology, attended the event. As pictured here, they presented the *FIRST* Tech Challenge Rockwell Collins Innovate Award to the Philobots team from Austin, Texas.

Service anniversaries

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

50 YEARS

APRIL

Colin J. Tschantz

45 YEARS

MARCH

Edward D. Kester

40 YEARS

FEBRUARY

Anita D. Silver

MARCH

Patsy J. Boland

Judy A. Hull

Alain Lacourarie

Delmer H. Yonts

APRIL

Homer L. Birdine

Michael T. Dupree

35 YEARS

FEBRUARY

Jan K. Bahnsen

Sandra A.

Christopher

Tho T. Dang

Becky J. Dorothy

Norene K. Gartelos

Sharon L. Hanken

Raymond D. Harken

Craig E. Harwood

Barbara A. Hazelton

Jody M. Keleher

Dana A. McCarthy

Dean R. Parr

Charles A. Pelic

Patrice D. Sorenson

MARCH

Diane J. Jakoubek

Cynthia J. Lenahan

Sean M. Martin

Linda K. Masteller

Lorna J. Rothmeyer

Janice M. Ruiz

Susan R.

Schellenberg

Robert J. Scott

Scott T. Solyntjes

Sharla A. Sutton

Michael J. Thome

Michael M.

Timmerman

Man H. Vuong

James B. West

APRIL

Bradley J. Dunford

James R. Gignac

Jacques Pares

Edward G. Silagi

Juan H. Trevino

Anthony H. Vo

30 YEARS

FEBRUARY

Mary S. Boots

Flecksing

Debra I. Bray

William C. Caldwell

Moudjilali Derrar

Steve J. Dicks

Roger L. Edson

Gwendolyn A. Hall

David L. Heim

David J. Heitkamp

Dennis Herrick

Laverne S. Knoup

Elizabeth K. Kurth

Duane Lighty

Gerald L. Lowry

James E. Melzer

Keith L. Miller

Philip W. Mitchell

Maria Del Carmen

Ochoa Burgueno

George W. Palmer

Robert A. Philipps

Ellen K. Pospichal

Michele K. Smith

Larry W. Suckow

Susan K. Swanson

Daniel C. Washburn

MARCH

Xavier Barichard

Christopher Boyd

Arturo Diaz Aguilar

Brian T. Driscoll

Clair R. Franzen

James M. Herlocker

Susan M. Hilby

James K. Houser

Robert E. Jarvis

Michael D. Jones

Kevin T. Kimura

Glenda S. Lethem

Allyn R. Miller

Richard E. Miller

Robert L. Murr

Rick E. Nelson

Brian L. Nicholas

Karen E. Roszell

Randy A. Schlueter

James B. Seiwald

James E. Triplett

APRIL

Kenneth J. Bauer

Chris Behmlander

Steven M. Blair

Steven G. Brookshire

Gustavo A.

Colmenares

John T. Edwards

Patrick W. Embry

Steven T. Geurts

James E. Hallerud

Denise M. Hodges

Jeffrey J. Krause

Donald W.

Matsunaga

Christopher Meehan

Robert D. Sirrine

Michael G. Thibault

CELEBRATING 40 YEARS

Pat Boland

Cedar Rapids, Iowa

Start date:

March 1975

Original position: Administrative

Current position: Sr. Export Specialist

What piece of advice do you have for new employees? Maintain a positive attitude, work hard, listen and learn.



25 YEARS

FEBRUARY

Pamela M. Buck

Patrice Cau

Frank A. Ditri

Scott M. Erickson

David B. Hume

Jacques Hygonenq

Clayton A. Jensen

Rick J. Lamparek

Robin Lee

Elizabeth A. Snitker

Robert D. Vanevery

Mary K. White

Mark A. Witte

MARCH

Sherry L. Allinger

Reginald D. Bean

Constance A.

Benjamin

Jeffrey A. Brown

Monica Cassen

Linda M. Coombes

Timothy D. French

Theodore Giraldi

Jaime Humberto

Gonzalez Ramirez

Rebecca A. Gotz-

Marshall

Cheryl S. Haynes

CELEBRATING 40 YEARS

Judy A. Hull

Cedar Rapids, Iowa

Start date: March 1975

Original position: Accounting Clerk,
Government Systems

Current position: Sr. PP&C Analyst, CS
Project Cost Management

**What piece of advice do you have
for new employees?** Don't be afraid
to ask questions — lots of them.
Question the status quo by asking, "Is
there a better way?"

Stephane Monge
John Moore
Bonnie R. Mullis
Susan L. Nicholas
Olivier Perrier
Michael Perry
Rose M. Ramos
Peggy L. Ritter
Bruce A. Rothwell
Susan W. Schnur
Elizabeth M. Sentieri
David Taylor
Thomas Theis
Bruce K. Tweeton
Victoria L. Vick

APRIL

Mary K. Arnold
Gregg L. Ballew
Anthony Diaz
Scott A. Erdman
Yvonne L. Evans
Brian E. Fairweather
Glen J. Frett
Vincent Gangula
Ray N. Kaneaiakala
Jerry A. Litterer
Charlotte R. Mack
Frances E.
McCollough
Ellen L. Milbach
Steven G. Rindfleisch
Mary K R. Robertson
Raymund N. Santos
Mark L. Sentieri
Philip R. Stickland

20 YEARS

FEBRUARY

Christina L. Autumn
Cindy L. Casel
Milton Greenstreet
James C. Holcombe
Ah Kow Lee
Soon Eng Lim
Abdul Aziz Bin Mohd
Sheriff
Michelle M. Moran
Petrus J. Sahetapy
Kheng Gee Tan
Gregory Thulliez

MARCH

James F. Aaron II
Elidia Aguilar Castro
Mayela Arevalo Perez
Jacques Bigou
Ana Luz Chavez
Hernandez
Chun Hau Chen
Lisa A. Cole
Richard Dion
Rose M. Dossett
Michael Dufton
Consuelo Flores Arias
Yvette Foote
Gregory A. Holliday
Armando Ibarra
Mendoza
Margarita Jacuinde
Bermudez
Norman J. Krieg
Hector Eloy Lizarraga
Garcia
Carol A. Martin
Andrew Morphou

Carrie M. O'Brien
Francisco Olvera
Alonso
Darold L. Peters
Nora Lidia Quinones
Jauregui
Agustina Rodriguez
Marquez
Joao F. Salvego
Maria Del Rocio
Segura Picazo
Stacy L. Tharp
Brenda M.
Westergren
Deimerly

APRIL

Celine Gomez
Daniel W. Huthwaite
Randy L. Iverson
Kevin J. Larson
Denise M. Mahrt
David H. Modro
Lucy F. Rafferty
Glenna Simmons
Kevin K. Sizer
Bryan A. Stickel

15 YEARS

FEBRUARY

Amy L. Banowetz
Amir Beganovic
Stephen R. Boss
Patrick Bossoutrot
Angela S. Burroughs
Ricky Ren Heng
Chang
Matthew M. Clay
Andrea L. Cooper
Roldan
Lilia Raquel Coronado
Hernandez
Thomas J. Eccles
Mindy K. Eilers
Dolores J. Fleming
Kenneth G. Forfia
Cynthia L. Foster
Carolyn F. Gelino
Margaret L. Gerber
Troy L. Gruchow
William Gurtshaw
Wayne Ho
Carla J. Hood
Michael J. Johnston
Patricia C. Knutsen
Doug P. Korbel
Bernard H. Lettington
Rory F. Lopata
Donald H. McGhghy
Victoria Nicholls

Paul A. Pearse
Martha Perez
Martinez
Jason E. Reid
Jean Pierre Rivet
Michael J. Rodman
Debrah Rogers
Adam S. Russell
John W. Sackfield
Susan M. Schultz
Frank J. Sgroi
Kyle P. Sievers
Jolanta M. Snowel
Tracey L. Strong
Trenton T. Trpkosh
Jennifer S. Waterman
Christopher M.
Wright
Robert J. Wuestner
Maria Guadalupe
Yanez Walting
Angel Alberto
Zamudio Garcia

MARCH

Jean-Charles Amaro
John B. Bailey
Victor H. Boyland
Celine Caouret
Gunnar M.
Cederholm
Robert V. Chapman Jr.
Dong Chen
Brenda J. Cross
Ralph Dines Jr.
Rebecca C. Duffy
Mohammad F. Faizi

Luis Fernandes
Paul French
Michael A. Garcia
Dave S. Girling
Dawn L. Hall
Karen K. Hempstead
Adrian A. Hill
William A. Holden
Mary L. Holub
Andrew R B Hubbard
Sandra T. Jacko
Nicole L. Kemp
David J. Kiskamp
Kari K. Long
William D. MacKenzie
Rebecca A. Mentzer
Kathy J. Michel
Matthew P.
Mindolovich
Karen Mishler
Edwin M.
Montgomery
Ruth E. Nester
Hien N. Nguyen
Ronald E. Oliver
Jim A. Olson
Joseph A. Parnella
Simon B. Parry
Harshna Patel
Harold T. Peeling
Lisa J. Retzlaff
Marc R. Robert
Rachael L. Roe
Carol Rose
Judy L. Sanders
Rebecca K. Sherod

Thomas G. Sickels
Denise K. Silvey
Eric L. Straw
Charles P. Stroo
Chai Long Tay
Austin R. Towell
Tina R. Vera
Diane Verney
Matthew V.
Wietlispach
Dawn L. Wilber
Jim A. Wittnebel Jr.
Tzu Liang Yen

APRIL

James M. Arnold
Romain Bakir
Michael T. Bartin
Eric R. Belanger
Aziz X. Berraho
Mark V. Bisignano
Mark Boettinger
Ernest Scott Bolt
Mickael Bressel
Donna L. Chadwick
Stephane Chaigne
Carine Clerbout
Craig R. Edgerly
Francis L. Feldpausch
Deanna L. Freeman
Julianna M. Freeman
Linda K. Galyean
Andrew M. Hansen
Christopher Hazeel
Conley Holder
Thomas E. Holland
Michael L. Kowalczyk
Judith E. Kuboushek
Christophe Le Blanc
Raquel D. Lehman
Todd W. Lehman
Victoria A. Meggers
Timothy J. O'Toole
Herve Pecassou
Yong Hen Poo
Rebecca K. Ries
David A. Ritchie
Nicholas J. Scarnato
Gerald L. Sheehy
Andrew J. Strife
Diane K. Sullivan
Viola G. Thomas
Titus N. Thompson
Christopher A.
Turkovich
A. J. Vasquez
Anthony J. Venuto
James W. Watson

CELEBRATING 35 YEARS

Barb Hazelton

Cedar Rapids, Iowa

Start date:

February 1980

Original position: Secretary,
Information Technology

Current position: Sr. Engineering
Project Assistant, Facilities
Coordinator in GS Operations

**What was your most challenging
project?** Helping with the conversion
of all the various phone systems when
we implemented VOIP.



Steven T. Williams
Alan Williard
Derald D. Winger Jr.
Ming Chi Yue

10 YEARS

FEBRUARY

Christopher B. Anderson
Suresh Annachi
Cinthia Claudia Baez Hernandez
Jennifer J. Baide
Chadwick E. Balvanz
Mark C. Becker
Aric A. Becker
John P. Bishop
Eric A. Bowen
Lucile Canourgues
Amanda R. Carson
Kathleen A. Cecena
Andrew K. Cho
Michelle N. Clark
Steven R. Cummings
Christine L. Curfman
David C. Deardorff
Scott M. Delagardelle
Julie Demuth Jayne
Michael J. Dion
Ngoc Nga T. Do
Jed W. Erdahl
Christopher R. Fisher
Lyndsey A. Fleming
Daniel Gray
Kurtis R. Grimm
Mizrraim Gutierrez Avila
Alick Ha
Randy J. Haas
Gavin P. Haentjens
Paul H. Harder II
Larry G. Harwood
Richard E. Hatton
Kristina L. Helbert
Erin M. Henderson
Sandra R. Henderson
Daniel Martin Hernandez Castillo
Ryan J. Hesseltine
Sharon L. Hill
Brian E. Hoepner
Christophe Imbert
Erik D. Johnson
Jason M. Juran
Heather M. Keeler
James E. Klein
Timothy D. Klement
Jon L. Kounkel

Timothy J. Kroeze
Thomas W. Lemmen
Brian L. Malamphy
Christopher J. Manton
Jean M. Martensen
Shavell M. Martin
Ellen R. Mayfield
Tracy M. McNamara
Corey S. Mosley
Melissa A. Murray
Israel Navarro Orozco
Margo D. Noel
Mark S. Norton
Aaron J. Nost
Veronica Ochoa Sanchez
Laura M. O'Connell
Thomas J. Ohrt
Michelle D. Owens
Joshua M. Perkins
Steven J. Phillips
David L. Pinkston
Charles A. Power
Brian J. Powers
Rodrigo Prieto Sandoval
Karen L. Puckett
Carmen Lorena Ramirez Valenzuela
Araceli Renteria Estrada
Melanie L. Richert
Gregory J. Riddick
Mark E. Rinehart
Roy Rodriguez
William J. Schaeffer
Justine C. Scheib
Patricia A. Sexton
Brandon J. Shanahan
Clifford E. Shaw
Cristina O. Simon
Kelly J. Sinnock
Amy L. Smith
Deborah S. Smith
Anthony L. SteidlerDennison
Gary L. Stout
Constance L. Thurston
Bien Tonthat
Tim A. Touro
Carmen J. Turner
Matthew C. VanDewater
Randy Vanhxay
Denise A. Vollmer
Ann M. Weldon

MARCH

Edward P. Ancil
Pamela M. Anderson
Frank Antonelli
Lonnie D. Arnold
Ernest W. Ashenfelter
Kenneth J. Barker
Gary L. Berneking
Andrew D. Bitterman
Todd R. Boyle

Casey M. Kohl
Alice L. Lee
Joseph J. Maraszek
Bela Mariassy
Angel Gabriel Martinez Ortiz
Christine A. Mayer
Jeri A. Messer
Thomas J. Messer
Sean P. Miller

CELEBRATING 35 YEARS

Jody Lincoln Keleher

Cedar Rapids, Iowa

Start date:

February 1980

Original position: Clerk/Typist,
Service Parts Department, Collins
Telecommunications Products
Division

Current position: Pr. Primary Contract
Manager, GS Airborne Solutions

**What piece of advice do you have for
new employees?** Don't let your job
be the most important thing. Enjoy
your life outside of work to the fullest
extent possible.



Victor M. Colon
Michael L. Cooper
Charles A. Cotton
Troy A. Docken
Vickie S. Dvorak
Steven A. Fisher
Heather M. Gibson
Jason D. Glynn
Rachel E. Grimm
Terell A. Guest
Robert M. Hall
Paul A. Heaven
Timothy K. Hidingen
Danny V. Hoang
Sean M. Hoke
Paul D. Hopkins
Albert P. Hubl
Kenneth N. Husband
Pramod Khadgi
Cecilia Kingrey

Rebecca A. Moos
Evan D. Moyle
Hau T. Nguyen
Jun Ogawa
Brian D. O'Neel
Michael E. Peyton
Anne Plotz
Robert G. Rogers
Philippe Rouquette
Nivedita Roy Ghatak
Jesus Saavedra
Anne M. Sams
Brandi L. Schminkey
Walter T. Seubert
Heather M. Sims
Cathleen J. Sondag
Timothy P. Sullivan
Cynthia R. Thomas
Russ D. Uthe
Juan E. Valles-Zamora

Diane L. Vega
Iliana D. Velazquez
Joseph A. Walden
Steven D. Wilcox
Harvey S. Wong
Chenggang Xie
Zhaorong Ye
Christine L. Young
Sergio Zaragoza

APRIL

Daniel B. Appleby
Traci H. Baker
Richard J. Barlow
Lissa S. Bern
Dan S. Boardman
Evelyn M. Bruce
Hong Cai
Laurie A. Carlton
James H. Clapp
Shawna R. Crile
Kenneth Cruz
John F. Cushman
Sebastien D'Agostino
Bruce E. Dalton
Eric Delzongle
Julia M. Devlin
Steven J. Dirks
Heidi J. Eastman
Henry O. Eniola
Jeffrey E. Fetta
Tiberiu Fodor
Phillip J. Forslund
Mickael Fradin
Adam Frey
Robert Gallino
Sandhanam Ganapathy
Tammy L. Gasper
Bryant S. Grant
Randy W. Green
Anna M. Halls
Donald E. Herndon
Kirk A. Jonasson
Tony M. Jones
Michael R. Kapsch
Matthew A. Kearns
Jungseung Kim
Paul M. Klesner
John J. Kuennen
Nicholas T. Lebo
Alan E. Lofdahl
Chris N. Ludwig
Katherine M. McAfee
Dawn E. McGuire
Willis L. McPhee
Holly K. Merrifield
Donald D. Mesch

Daniel I. Moore
Craig S. Morris
Suneeta G. Mullin
Tim S. Nelson
Janet M. Olesen
Derek R. Owen
Brian D. Patterson
Ryan J. Paulus
Jody L. Perry
My K. Phu
James N. Potts
Kristin A. Prouty
Amber D. Reed
Il B. Reed
Fred L. Rossow
Tara E. Schoepske
Nichole A. Sellner
Justin J. Smith
Cory J. Stanton
Steven F. Storm
Lloyd H. Swanson
Jerome Tachoirs
Joseph S. Torre
Frederic Trincal
Janet L. Van Winkle
Laurent Vidal
William S. Werner
Kerry J. Whitetree
Benjamin D. Williams
Steven J. Wilson
Jun Yang
Crystal A. Yannarella
DeAnn R. Zobro

5 YEARS

FEBRUARY

Varun Agarwal
Joshua Baer
Kevan N. Bakewell
Mandar S. Banavadikar
Andrew D. Bigler
Michael K. Burdine
Philippe Carmona
Timothy J. Carson
Sia Cha
Rudolph Y. Chan
Jennifer L. Chao
Fabien Charlier
Sachin Chopra
David D. Cox
Gregory A. Crawford
Vishal Diwakar Dalal
Melissa B. Ditch
Chad E. Dorsey
David L. Eastburn
Leslie A. Fessler
Dale A. Hartman

Jennifer M. Jayne
Daniel K. Kaiser
Kevin P. Knox
Kin Hoong Kwan
Priscilla Lara
Dennis L. Larsen
Brendan J. Leahy
Timothy J. Leyes Sr.
Ronghui Liang
Melissa A. MacDonald
Devani Hardik Mathuradas
Natalie C. McLaughlin
John A. Mercil
Ricky Prakash Mohanty
Douglass D. Nguyen
Ryan G. Noonan
Kathleen O'Friel
Douglas A. Ogreen
Edmund D. Page
Lisa S. Parry
Nicolas J. Plamann
Charles B. Plyler Jr.
Joel F. Ratter
Yasmin A. Rocco
Elodie Rodriguez
Sahil Samnotra
Christopher L. Schaffer
Linda M. Sojka-Parman
Viraj N. Solanki
Ratan Tirkey
Carmen K. Tseng
Sandeep Verma
Anders P. Walker
Isaac B. Weddington
Andrew N. Wendling
Adam D. Whalen

MARCH

Martin Acosta
Thelma Judith Alba Meza
Evan D. Allrich
Sergio Alvarez
Jar Hwee Ang
Nasser Arslane
Pattani Rishit Arvindbhai
Kimberly A. Ash
Benjamin Atger

CELEBRATING 35 YEARS

James B. West
Cedar Rapids, Iowa

Start date:
March 1980

Original position: Summer Intern,
Collins Telecommunications
Products Division

Current position: Pr. Electrical
Engineer, Advanced Technology
Center, Advanced Radio Systems
Department

**What is your favorite aspect of
your current position?** The people:
collaborating with talented and
creative colleagues, and mentoring
the next generation of engineers.



Stephen N. Balong	Kevin C. Foster
Ryan J. Barnett	Christopher D. Garcia
Christopher M. Boggs	Ernest Gardner
Delwyn G. Borntrager	Chandra S. Garrepally
Stormchylde S. Borsetti	Miguel A. Guerra
James A. Brace	Vijaya Sekhar Gunupudi
Justin A. Bressler	Alecia R. Harrison
Mark R. Brinthaup	James A. Harvey
Glen T. Buckner	Ryan B. Hemphill
Randy L. Bunge	Mathew A. Hennings
Heidi E. Capron	Joseph J. Hermanowicz
Kara Clark	Senia H. Hernandez
Michael V. Cone	Wendy S. Hoffman
Melissa D. Dahm	Pamela S. Husmann
Marco A. De Leon	Denise A. Hynes
Jennifer K. Dearborn	Christopher I. Jaramillo
Brenda C. Diaz	Kim S. Jepsen
Anantha Krishna Donekal	Cary E. Jones
Sameer Sudhakar Doye	Michael E. Keefer
Matthew W. Draeger	Oliver S. King
Scott E. Duffy	Jonathan M. Kolbrak
Tammy Eastman	Sudha Ramani Kora
Garrett R. Elworth	Iewen Lee
Matthew S. Erickson	Terry A. Long
Timothy Fellows	Angelica A. Lopez

Matthew A. Maduro
Trivedi Ravi Maheshbhai
Danny E. Major
Bruce C. Maynard
Michael D. McClurg
John H. McKean
James A. Millea
Nicolas P. Mortelliti
Anh N. Nguyen
Jill N. Orris
Pranav Pandey
Mark Parme Jr.
Shilpa R. Patel
Cinh T. Phan
Debora C. Polk
Barbara A. Potter
David J. Ray
Kari A. Ray
Divya A. Reddy
Ravindra Reddy
Ronald R. Rude
Sunil Kumar Sahu
Alejandro Salazar Larios
Avanindra Singh
Hariom Singh
Katie R. Sokerka
Justin J. Spratt
Raymond Staley
Debra L. Stark
John R. Steffen
Kristen E. Steffen
Tiffany M. Straughan
Kerry C. Talyat
Jerome Toulouse
Jack D. Treloar
Heidi M. Trotter
Justen T. Tucker
Piper J. Twachtman
Kyle VanDusen
Frank J. Vodhanel Jr.
Kevin A. Wanasek
Frederic Wandelst
Eric I. Wendling
Mark H. Williams
William A. Zakaluk

APRIL

Julio Cesar Acuna Jimenez
Sajeda Afzal
Jay Alameddine
Simpson Ananda Raj

Venugopal Angagal
Ganesh K. Armugam
Paul Attaway
Stephen R. Ausman
Vincent Barreau
Richard J. Beckman
Angela R. Beer
Guillaume Berni
Jessica R. Boyer
Roberto Bracamontes
Francois Brignol
David R. Bruno
Dorothy Calvert
Javier Chapa Lopez
Jane Cook
Dallas R. Coombes
Julie A. Cox
Matthew J. Cunnien
Jared M. Cunningham
Steven W. Davis
Daniel A. Dennett
Ellen P. Dennis
Carmelo F. Di Fede
Irene Enabulele-Bogle
Shawn C. Freese
Christine A. Garceau
Christine A. Gibson
Jennifer C. Glover
Rolando Gonzalez
Matthew R. Hamje
Brian Harrison
John L. Haunfelder
Christopher Hinnen
Tarsha R. Holly
Amanda K. Holtey
Timothy M. Hubert
Rosa Isela C. Humildad
Arturo Ibanez
Gregory V. Inkelaar
Vincent J. Ippolito
Susan D. Johnson
Traci L. Johnson
Rebecca L. Jones
Aaron D. Kolega
Vijay Kumar S. Kotnoor
Pavan Kumar
Paul D. Livermore
Maria Luz Lopez
Maria Guadalupe Lopez Osuna Maria

Brett T. Mangold
Christy L. McDonough
Andrew J. Morrical
Debra Murdock
Hinda Mynny
Shingo Nakamura
Ramon Jorge Navar Larios
Bhumika D. Nayak
Ryan J. Olson
Mark D. Olson
Anand Pandey
Chetan A. Patel
Kristine K. Peyton
Jesus Rolando Quintero Herrera
Andrea M. Rahe
Jack Ramirez
Ana Paola Ramirez Murillo
Niranjan Reddy
Darlene R. Reynolds
David M. Rhodes
Ma De Lourdes I. Rios
Brittany Robinson
Celsa Silvia Rosales Ponce
Courtney L. Rowe
Rita B. Sackett
Peggy J. Schuricht
Kelly C. Scott
Vanita Sharma
Charles D. Smale
Matthew J. Smith
Gaurav Srivastava
Mark A. Steel
Somanchi Venkata Surya Subrahmanyam
Angela K. Taylor
Kenneth W. Triplett
Gabriela Valdez Maciel
Missael Efrain Vega
Todd B. Vitek
Carolina M. Walters
Rachael N. White
Sherri Wildoner
Daniel E. Wilson
Joel Wotell
Wataru Yaguchi
Yeng Yun Zee

Retirees

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

Barry M. Abzug Falls Church, Virginia	Thomas J. Cleveland Cedar Rapids, Iowa	Haysville, Kansas Richard W. Finley Iowa City, Iowa	Barbara A. Holden Cedar Rapids, Iowa	Palm Bay, Florida Brian P. McKeehan Valley Springs, California	Manchester, Iowa James M. Pienkos Central City, Iowa
Naresh K. Agarwal San Jose, California	George T. Cleveland Panora, Iowa	Joseph R. Fischer Cedar Rapids, Iowa	Kathleen E. Hull Springville, Iowa	Christophe B. Miller Richardson, Texas	Brenda H. Prediger Cedar Rapids, Iowa
Michelle I. Anderton Riverside, Iowa	Diana L. Cline Iowa City, Iowa	Floyd D. Fischer Marion, Iowa	Ted D. Jillson Wichita, Kansas	Thomas G. Mills Cedar Rapids, Iowa	Denise L. Railsback Shellsburg, Iowa
Birendra Bahadur Cedar Rapids, Iowa	Brian R. Connell Marion, Iowa	Linda Flannery Palm Bay, Florida	Gail A. Kester Clark Marion, Iowa	Stephen R. Mitchell Cedar Rapids, Iowa	William H. Ransom McKinney, Texas
John N. Barnett Moreno Valley, California	Michael J. Cooper Oregon City, Oregon	Jeffrey A. Frazier Corona, California	Stephen M. Kleckner Cedar Rapids, Iowa	Delilah A. Moffit Marion, Iowa	Shelly R. Reynolds Marion, Iowa
Alan R. Bechtold Marion, Iowa	Kendall R. Cornell Dubuque, Iowa	Sheila K. French Marion, Iowa	Jeffrey P. Kline Cedar Rapids, Iowa	Thomas L. Moran Cedar Rapids, Iowa	Douglas R. Richards Marion, Iowa
Melvin R. Bender Kalona, Iowa	Kimberly A. Cronbaugh Belle Plaine, Iowa	Susan B. Gates Plano, Texas	Irving J. Lagneaux Cedar Rapids, Iowa	Carolyn A. Mullinix Oak Hill, Florida	Patricia L. Richardson Melbourne, Florida
Carl J. Berstler Marion, Iowa	Michael W. Davies Anamosa, Iowa	Tamam Gharib Robins, Iowa	Don L. Landt Palo, Iowa	Mary A. Murphy Cedar Rapids, Iowa	Robert H. Richardson II Ellicott City, Maryland
Ronald L. Bird Cedar Rapids, Iowa	Larry D. Davisson Palo, Iowa	Geirun B. Giza Marion, Iowa	Rodney N. Larson Marion, Iowa	Richard T. Napolitano Annapolis, Maryland	Donald L. Roberts Wichita, Kansas
Larry W. Black Cedar Rapids, Iowa	Gary J. Deimer Marion, Iowa	Dwayne D. Grote Cedar Rapids, Iowa	Judith A. Leavitt Coralville, Iowa	Sara J. Onsager Decorah, Iowa	Fernando Rodriguez Murphys, California
Gary W. Boesdorfer Murphy, Texas	Robert D. Denison Cedar Rapids, Iowa	Earl R. Haft Miami Springs, Florida	Pamela K. Letsch Clinton, Iowa	Roger S. Parks, Marion, Iowa	Richard F. Rystrom Cedar Rapids, Iowa
Larry D. Bricker Marion, Iowa	Maria G. Diaz Gilroy, California	David H. Haley Marion, Iowa	Paul D. Little Marion, Iowa	Gilbert C. Parmelee Las Vegas, Nevada	Douglas E. Salisbury Hiawatha, Iowa
Gregory E. Brown Palo, Iowa	Debora J. Drexler Coggon, Iowa	Dorothy A. Harrington Rockledge, Florida	Norma Lopez Huntington Beach, California	Irvin J. Pasker Cedar Rapids, Iowa	Kathy M. Sedore Marion, Iowa
Sally A. Bruce Vinton, Iowa	Raejean Fairbanks Cedar Rapids, Iowa	Kenneth M. Hartman Carlsbad, California	Maynard G. Luth Fairfax, Iowa	David C. Pattison Cedar Rapids, Iowa	Mary L. Shaffer Marion, Iowa
Tracy Bruseth Cedar Rapids, Iowa	Linda M. Farrell Melbourne, Florida	Robert T. Heitsch Palm Bay, Florida	Dona C. MacMillan Iowa City, Iowa	Donna R. Patton Coggon, Iowa	Mark S. Shanks Tigard, Oregon
Dennis E. Burkhardt Ely, Iowa	James D. Fennern Sr. Cedar Rapids, Iowa	John S. Hobbs West Des Moines, Iowa	Allen P. Mass Lisbon, Iowa	Duane E. Peters Cedar Rapids, Iowa	Bruce E. Shockley Charleston, South Carolina
David E. Cantrell Sherwood, Oregon	Valerie F. Ferguson Pasadena, Maryland	Karl R. Hoffman Marion, Iowa	Rogelio R. Matos Indialantic, Florida	Steven H. Petersen Cedar Rapids, Iowa	Alma A. Schramek Swisher, Iowa
Mary K. Clark Tipton, Iowa	Donald G. Fifer Jr.		Pamela S. McComas	Dwight D. Phillips	

Nicholas Skordilis San Jose, California	Susan E. Spitz Cedar Rapids, Iowa	Ronald J. Stastny Ely, Iowa	Bruce E. Taylor Crossville, Tennessee	Lynda L. Williams Marion, Iowa	Larry L. Young Cedar Rapids, Iowa
Renee Smith Robins, Iowa	Patti J. Stacy Brandon, Iowa	Douglas A. Stealey Cedar Rapids, Iowa	Thomas D. Wahlstrom Vancouver, Washington	Chris C. Williams Hiawatha, Iowa	Christy S. Young Palm Bay, Florida
Richard G. Smith Everett, Washington	Ronald T. Stanton Tualatin, Oregon	James F. Steggall Cedar Rapids, Iowa	Debbi L. Washburn Marion, Iowa	Shirley E. Wilson Center Point, Iowa	Ning Zhu San Jose, California
Raleigh J. Spinks Jr. Marion, Iowa	Shirley J. Starr Cedar Rapids, Iowa	Carole J. Stephen Marion, Iowa	Robert L. Whitfield Manteca, California	Edmond M. Wilson Center Point, Iowa	Gail M. Zweibohmer Postville, Iowa
		Robert E. Stockwell Hillsboro, Oregon			

In memoriam

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

Richard D. Allen III* Morristown, Tennessee Feb. 1, 2015	Ricky L. Fulbright Griffin, Georgia March 5, 2015	Linda Johnston* Feb. 14, 2015	Darrell W. Netolicky* Cedar Rapids, Iowa Dec. 5, 2015	Paul D. Purdy* Dunkirk, Ohio Dec. 14, 2014	Karl K. Strempeke* Melbourne, Florida Feb. 10, 2015
Kenneth G. Althouse* Arcadia, Florida Jan. 16, 2015	John J. Furlan* San Jose, California Dec. 21, 2014	Glenn W. Kirchman* Melbourne, Florida Feb. 10, 2015	Kim R. Newmister* Cedar Rapids, Iowa Feb. 2, 2015	Sylvio I. Raymond Jr.* Houlton, Maine Jan. 2, 2015	Antonette T. Stuessel* Marion, Iowa March 29, 2015
Kenneth J. Baker Cedar Rapids, Iowa Dec. 21, 2014	Billy D. Goodgame* Slidell, Louisiana Jan. 29, 2015	Clifford D. Koop* Cedar Rapids, Iowa Feb. 7, 2015	Cam V. Nguyen* Fontana, California Jan. 19, 2015	Sandra S. Reid* Olin, Iowa Jan. 24, 2015	Ann Thompson* Jan. 12, 2015
Clyde T. Beatty* Springfield, Ohio Jan. 2, 2015	Walter A. Hammerle* Florence, Kentucky Feb. 21, 2015	Frank A. Kowalewicz* Rochester Hills, Michigan Jan. 3, 2015	Thomas A. Niemi* DeWitt, Iowa Dec. 29, 2014	James J. Ritchey* Newark, Ohio Jan. 5, 2015	Aiphuong T. Tran Dallas, Texas March 12, 2015
Tommie Boleyn* Marion, Iowa Jan. 12, 2015	Charles H. Harff* Sewickley, Pennsylvania March 9, 2015	Carson W. Krebs* Fountain Valley, California Feb. 22, 2015	Dale Odell* Anahola, Hawaii Jan. 4, 2015	Edelmiro Rodriguez* Reno, Nevada March 7, 2015	Dennis J. Vanderhei* Cedar Rapids, Iowa Dec. 24, 2014
Roger D. Burns* Sun Lakes, Arizona Jan. 5, 2015	Patrick G. Henry* Madison Heights, Michigan Dec. 1, 2014	Bryson C. Lewis* Monroe, North Carolina Dec. 23, 2014	Michael D. Patrick* Springfield, Ohio Dec. 15, 2014	Helen Romanski* Stony Brook, New York March 8, 2015	Kim Walters Shadyside, Maryland March 18, 2015
Richard O. Clark* Cedar Rapids, Iowa Feb. 19, 2015	Dennis P. Hilzendager* Central City, Iowa Feb. 1, 2015	Edward F. Martin* Zellwood, Florida Dec. 31, 2014	Michael Pennington* Amelia Island, Florida Dec. 5, 2014	Beverly Saunders* Annapolis, Maryland Jan. 9, 2015	Narda D. Walters* Marion, Iowa Jan. 6, 2015
Richard Coss* Annapolis, Maryland March 8, 2015	Regina H. Honzik* Hodgkins, Illinois Jan. 20, 2015	Dianne M. McGhee* Melbourne, Florida Feb. 28, 2015	Lillian L. Peters* Cedar Rapids, Iowa March 16, 2015	James R. Siechert* Cedar Rapids, Iowa Jan. 5, 2015	Frances A. Watson* Phenix City, Alabama Dec. 18, 2014
Sandra J. Fick* Hiawatha, Iowa Feb. 8, 2015	Joseph Hucko* San Diego, California Jan. 4, 2015	Richard D. Moore* Selma, Iowa Jan. 13, 2015	Linda M. Pratt Rockledge, Florida March 10, 2015	Jason W. Smith Cedar Rapids, Iowa Feb. 17, 2015	Lloyd Worthley* Fremont, California Jan. 2, 2015
Robert M. Frame* Lincoln, Nebraska Feb. 22, 2015	Lonnie D. Hughes Indianapolis, Florida Dec. 3, 2014	Carl S. Nelson* Lutz, Florida Feb. 11, 2015	George W. Pritts Jr.* Alexandria, Virginia Dec. 13, 2014	Bruce H. Stetler Mulvane, Kansas March 10, 2015	Dawn M. Wright Center Point, Iowa Feb. 10, 2015

**Retirees*

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