



INDUSTRY BRIEF

Video Collaboration Technologies for Empowering the U.S. Military

How the U.S. Military uses Video Communications for Training, Blended Learning, Administrative Meetings, and Healthcare Delivery

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Executive Summary

Most federal governmental agencies – as well as all NATO / OTAN member countries – use video collaboration technologies at some level for some types of applications. All too often, though, meetings are the central application and many times the technologies in the conference room are set aside for senior staff and not available to others at lower ranks.

The U.S. military is an exception, in that it has found a rich set of empowering applications for video collaboration. Wainhouse Research has repeatedly observed that many enterprises initially adopt a technology platform and infrastructure for a specific purpose – and then additional applications are introduced over time as (almost virally) the original users and new users alike find new use cases. And this is no less the case in the U.S. military. There, the needs of just-in-time training have dovetailed with the needs for achieving continuing education credits. And the needs of telemedicine and patient care have driven new uses cases that address troop work-life balance and general family welfare.

Wainhouse Research was engaged by Polycom, sponsor of this industry brief, to conduct a select set of in-depth interviews (IDI's) with three stakeholder groups that deploy video communications for training and healthcare within two branches of the military. We specifically interviewed the U.S. Air Force's Air Technology Network (ATN), the U.S. Army's Training and Doctrine Command (TRADOC), and the U.S. Army's European Regional Medical Command (ERMC), based in Landstuhl, Germany. What we found are training, telemedicine, and administrative applications that are helping the U.S. military achieve its mission, be more productive, and even respond to budgetary challenges. A clear return on investment (ROI) is made evident in travel savings *and* deployment efficiencies, as in the ERMC's ability to respond to large troop surges without negatively impacting its regional clinics, or the ATN's ability to deliver courses that save the taxpayers literally millions of dollars every year. Just as important, however, is the impact on quality of life. As an example, video collaboration for training has the same qualitative effect for the armed forces as it has demonstrated in the business world: by not having to travel, individuals are able to be more productive and have greater work / life balance. Soldiers on relief from deployments undoubtedly want to spend time with their families, not at another base – and TRADOC's extensive network provides such support for those members of the armed services and many others.

Each of the branch organizations described in this industry brief is utilizing video collaboration technologies for *award-winning* purposes. The proof is in the evidence we have before us: a flourishing U.S. military, effectively responding to global and domestic military needs while taking care of its own

Introduction: Training Organizations and the U.S. Military in Transition

The historic strength of in-person teaching and training has been its face-to-face, hands-on nature. Training is the embodiment of the teaching of vocational or practical skills. It is knowledge that relates to specific useful competencies and often generates its value via social interaction among participants – not just from pure knowledge transfer. In other words, *how* and *from whom* we learn often is as important as *what* we learn. And who could imagine any military personnel – whether enlisted basic training recruits or the Corps of Cadets at West Point – *not* receiving face-to-face, hands-on education?

Training is well understood to be essential to the maintenance, upgrading, and updating of skills throughout one's working life, and nowhere has its value been as evident as in the U.S. military. No organization in the world spends more on equipment, facilities and personnel than the U.S. military. With almost 1.47 million active frontline personnel and another 1.46 million active reserve forces, the U.S. military employs one of the largest workforces in the world.¹

The needs of the military in the 21st century are dramatically different than in previous generations. Post-9/11, the nature and pace of deployments have evolved, with surges and troop movements unlike any seen in the past. Similarly, post-9/11 the social and psychological pressures upon the armed forces are well known: repeat deployments with shorter-than-traditional home leaves, a new type of warfare more high-tech than ever, and a pace that keeps the military *always* on the move.

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For fiscal year 2014, the U.S. DOD base budget is \$526.6 billion, \$1.2 billion more than FY 2013 with more than 25% of the total budget earmarked for operations and training.² Yet the pressures to reduce spending never cease, with decisions made almost daily based on the needs of a modern military, external geopolitics, and plain and simple political machinations – as illustrated with the 2013 sequestration. In fact, as recently as May 2012, the DOD announced a fiscal 2013 goal to reduce travel expenses by 30 percent from a recent baseline.³ With President Obama introducing an executive order in 2011 directing agency heads to reduce expenses, including travel, and with bills recently introduced by members of the U.S. House to reduce federal agency travel spending, the trend is clear.

Thus military leaders constantly seek alternatives that provide cost-efficiencies while still meeting the most important mission at hand: maintaining readiness. Often, information and communications

¹ www.globalfirepower.com

² www.comptroller.defense.gov

³ <http://www.defense.gov/News/NewsArticle.aspx?ID=116769>

technologies are prodded to help find those cost efficiencies, as they are well positioned to drive change. The applications of these technologies do no less than *empower* the military to achieve its mission. And we note that the military is no less susceptible to the attractions of the consumerization of IT: mobile technologies such as smartphones and tablets offer a particular potential to help support new and evolving applications.

We also note that the U.S. military is not alone among Federal Government agencies in using video collaboration for a variety of purposes – including applications other than general meetings. Wainhouse Research in past studies has explored how the U.S. Patent and Trade Office, Treasury Inspector General for Tax Administration (TIGTA), General Services Administration, and NASA use collaboration technologies for *Telework*. All have rich sets of policies and procedures for enabling employees to utilize collaboration technologies as a means of improving productivity, decreasing carbon emissions and reducing traffic gridlock, and supporting continuity of operations planning (COOP). Recent (2012) data from the Office of Personnel Management (OPM) indicates that about one third of employees of the agencies they surveyed have Telework agreements in place with their employees – and that number is steadily increasing every year.⁴

Methodology

Wainhouse Research was engaged by Polycom, sponsor of this industry brief, to conduct a select set of in-depth interviews (IDI's) with three stakeholder groups that deploy video communications for training and healthcare within two branches of the military. We specifically interviewed:

- U.S. Air Force's Air Technology Network (ATN)
- U.S. Army's Training and Doctrine Command (TRADOC)
- U.S. Army's European Regional Medical Command (ERMC)

Key Finding

Based on past survey work Wainhouse Research has conducted in the area of technology applications adoption, we have repeatedly observed that many enterprises initially adopt a technology platform and infrastructure for a specific purpose. Additional applications then are introduced over time as (almost virally) the original users and new users alike find new use cases. And this is no less the case in the U.S. military. There, the needs of just-in-time training have dovetailed with the needs for achieving continuing education credits. And the needs of telemedicine and patient care have driven new uses cases that address troop work-life balance and general family welfare.

The following table identifies each organization's specific identified key or secondary applications.

⁴ www.telework.gov

Key or Secondary Application	U.S. Air Force's Air Technology Network (ATN)	U.S. Army's Training and Doctrine Command (TRADOC)	U.S. Army's European Regional Medical Command (ERMC)
Synchronous, live classroom training	√	√	√
Blended learning	√	√	√
Continuing Education	√	√	√
General administrative or command and control meetings	√	√	√
Telemedicine delivery			√

Branch Operations / Missions

Air Technology Network



The Air Technology Network's mission is to promote, manage, and deliver instructional broadcasting for the Air Force's distance learning programs and other DOD users of interactive television (ITV). ATN supports several Government agencies such as USAF, Defense Health, US Army, US Navy, VHA, Defense Equal Opportunity Management Institute, and National Park Service. ATN is part of a wider community of ITV users known as the Government Education & Training Network (GETN). Other user agencies include DOJ, FAA, and ANG. GETN provides shared programming and a total base of over 1,300 interoperable locations.

The ATN is an ITV network that consists of a High-Definition video uplink reaching receive-only downlink classrooms equipped with HD video and two-way audio conferencing equipment for interaction. ATN

links user schools (located at Maxwell, Robins, Dobbins, Peterson, Buckley, Wright-Patterson, Lackland Air Force Bases, among others) to its hub through Polycom-equipped broadcast centers as a “front end,” user-facing technology. ATN now reaches 282 classrooms across 76 AF bases within the U.S. (including Alaska and Hawaii) and 10 locations in Europe, with education and training programs broadcast from its hub at Wright-Patterson AFB. The connection to Europe is being made through the Global Broadcast Service in Norfolk, Virginia. ATN supports a blended learning solution — many courses that use ITV also provide online or in-residence sections.

Since its development in 1993, ATN has expanded to providing over 215,000 student training hours a year. ATN is now expanding to reach all DOD medical facilities worldwide (an additional 150 or more sites), and has now picked up a DOD-wide mission known as the Defense Education & Training Network. Within a year, DETN will have grown from 10 to 22 broadcast centers linked to its hub. Also, most video conferencing facilities can link to the hub when instructors cannot travel to one of ATN’s broadcast facilities. The network is managed by the ATN Program Management Office, a part of Air University, Air Education & training Command, and located at Wright-Patterson AFB, Ohio. The Program Management Office (PMO) coordinates the broadcast schedule for all the users and oversees the technical operations and development of the network.

Training and Doctrine Command



TRADOC is tasked with the global responsibility of overseeing training of Army forces, the development of operational doctrine, and the development and procurement of new weapons systems. Included in this mission are the developing, educating, and training of soldiers, civilians, and leaders, and supporting unit training. Thus TRADOC’s charter ranges from basic training to high-level leadership skills, and from the physical to the mental, psychological, and more.

TRADOC executes its mission through six major subordinate centers and commands:

- Army Capabilities Integration Center (Fort Eustis)
- Combined Arms Center (Fort Leavenworth)
- Initial Military Training (Fort Eustis)
- Combined Arms Support Command (Fort Lee)
- US Army Recruiting Command (Fort Knox)
- US Army Cadet Command (Fort Knox)

The organization operates 32 Army schools at dozens of different locations. TRADOC schools conduct more than 1,300 courses and more than 100 language courses. Its courses train almost 600,000 soldiers and service members each year via resident, on-site and distributed learning: more than 500,000 Army soldiers; more than 45,000 personnel from other branches of the military; more than 32,000 civilian personnel; and almost 10,000 international learners. And TRADOC uses a wide variety of technologies – including video collaboration – to deliver *home station*, distributed training to soldiers and service members who may be between overseas deployments or otherwise unable to travel to training centers. TRADOC’S objective is to create the right infrastructure needed to support a wide variety of schools by leveraging different types of classrooms. Any one school might have as many as four to five classroom types: 1) instructor presentation system classrooms; 2) large training classrooms / facilities; 3) networked standard computers; 4) mission command art and sciences classrooms; and 5) army mobile maintenance trainers. Video conferencing is a key element of most of these classrooms.



European Regional Medical Command



Based in Landstuhl, Germany, the ERMC serves U.S. Army Europe, U.S. European Command, U.S. Africa Command, and U.S. Central Command service members serving in Iraq and Afghanistan. It fields 17 Army Military Treatment Facilities in Germany, Italy, and Belgium, while also partnering with providers at more than 40 host nation hospitals, to provide primary and specialty care for thousands military personnel and their families, in addition to staff in American diplomatic posts scattered throughout the world.

One little known fact is that the ERMC Landstuhl Regional Medical Center is the largest American hospital outside of the United States. It serves as the only evacuation and referral center for Americans serving in “the sandbox,” the term used by the military to describe desert combat theaters in the Middle East and Africa – and thus is directly next to the front lines of combat, often seeing wounded service members and determining post-deployment care.

Additionally, ERMC focuses on continuity of care for both service members and their families who may be deployed overseas. Thus it uses a Primary Care Manager (PCM) and PCM team model to focus on increased access and continuity of care, individual and community needs, and quality care. This means it follows a holistic model in both its care of members and family members as well as its programs and

initiatives target patients. How it uses technologies like video collaboration and Telemedicine throughout the globe contribute to that holistic model.

Training

Each military organization approaches how it applies video collaboration technologies to training in its own unique way based on its mission, stakeholders, and training requirements. TRADOC and ATN are structured as delivery networks with a variety of internal and external customers, while ERMC focuses on creating access to other programs.

For instance, TRADOC's Fort Gordon's Signal School teaches communications technologies. Such courses can range from simple technician courses to more complex engineering, satellite, and communications systems maintenance courses. Some courses are taught 100% via instructor-led training (ILT), while others are taught in blended fashion with a mix of course pre-work via asynchronous web-based training and some on-campus hands-on and some video conferencing. Other courses are taught purely via video conferencing. The Command and General Staff College (CGSC), based out of Fort Leavenworth, has satellite campuses at Forts Lee, Rucker, and Benning. This team trains officers, but taking an officer away from his / her duty station for up to six months is simply too unproductive to be feasible. Thus CGSC uses video conferencing as a means of extending classrooms and literally allowing officer training to take place without removing the officer from his / her duty station.

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The ATN focuses on mixing the cost-effectiveness of satellite delivery with the global reach afforded by the combination of satellite and video conferencing technology. Thus, as mentioned earlier, it has many stakeholders beyond the Air Force that draw upon its technological infrastructure and time-honed pedagogical approaches to deliver training and continuing education. As an example, on any given day the ATN is the mechanism for delivery of a variety of medical, engineering, legal, acquisition, aviation management, life skills, and other course content that are for the most part interactive. It tracks the metrics of its stakeholder instructors – and shows an astounding 100% satisfaction rate.⁵ And in line with results of online learning tracked and described by the U.S. Department of Education, student performance is at least equal to, or shows some improvement *over* in-resident, purely face-to-face delivery. Addressing the challenges of tracking return on investment, the ATN reports that it saves (or cost-avoids) approximately \$10 million a year in training dollars due to its proven savings of 91% versus in-residency training. And these sorts of savings are achieved based only on travel expense reductions (air and lodging / per diem fees).

⁵ 98% very satisfied, 2% satisfied in most recent 2013 tracking.

The flip side of the ROI coin, productivity and quality of life enhancements, are harder to measure quantitatively, but evident qualitatively nonetheless. After returning from deployment, what member of *any* branch of the services would want to have to travel away from home station and family for anywhere from two to six months of specialized training? Some soldiers have been deployed three to four times and time with their families is a treasured restorative. Thus video

collaboration for training has the same qualitative effect for the armed forces as it has demonstrated in the business world: by not having to travel, individuals are able to be more productive and have greater work / life balance. With the social fabric of the military broadly agreed to as having been challenged by fighting two major wars over the past decade, soldiers on relief from deployments undoubtedly want to spend time with their families, not at another base.

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While its focus is on telemedicine, the ERMC similarly uses its video collaboration network to eliminate travel by medical staff. Grand rounds training is conducted from Landstuhl to outlying clinics, where the physician presents case information via video. Medical personnel are able to achieve CME credits and also remain updated on critical military health issues (behavioral, epidemiological) as they are developing. And while Landstuhl receives some CME courses out of the National Medical Command in Bethesda, MD, the ERMC now *delivers* CME coursework to other locations on a regular basis. With the recent sequester cuts leading to cutbacks in travel budgets for training, video technologies have become the tool for delivering that same necessary training.

Telemedicine

With its focus on healthcare, it's natural that the ERMC would utilize its network of hospitals and clinics throughout Germany, Italy and Belgium using collaboration technologies. The ERMC relies on an array of Polycom video conferencing and collaboration solutions to provide remote consults in 24 medical specialties, pre-operative exams, and assessments of traumatic brain injuries – all too often a common battlefield affliction. The reason telemedicine is an important component used by the ERMC to achieve its mission are the distances that must be covered: even one pre-operative procedure that can be completed over video at a distance saves one soldier transport to Landstuhl – as well as the costs of having that soldier not on duty for a four-five day trip for treatment. A five-day trip to Landstuhl might generate as much as \$1,500 in per diem expenses, *not counting travel costs or man hour wages lost due to absence from duty* – when conducted over video, that soldier's care just saved that much alone for the military – and ultimately taxpayer. Assuming these published per diem expenses, Wainhouse Research estimates that a single video consultation can save taxpayers from \$7,000 to more than \$10,000 per consultation once other travel costs and lost man hours are considered.

Telemedicine is handled just as any patient-physician relationship: emulating the doctor's office, appointments are scheduled and processed as if one is visiting with a local physician. Typically a care

provider in Landstuhl is assigned a virtual exam room when the remote clinic needs to connect to that provider, ensuring a level of security and privacy. Remote clinics contain practitioner carts strategically located with a set of peripheral devices such as scopes, cameras – and a local trained medical technician handles local patient consultation needs. Consults are conducted in High Definition video to provide the best experience for both providers and patients.

Yet while soldiers are a key recipient of healthcare from the ERM, their families benefit from the use of telemedicine. In the past, families had to travel hundreds or even thousands of miles when in an emergency they needed to be examined back in the U.S. if a local facility lacked specialist care. If a single consult eliminates travel back to the U.S. for specialized or emergency care, thousands of dollars are saved and quality of life improved. These sorts of interventions are now routine.

We also find a systemic improvement in the military's readiness and ability to respond when it uses video collaboration for telemedicine. As an example, the Medical Command provides assistance during troop surges, when units are deploying or returning home from a tour of duty. Clinic workloads increase when units transition in or out of deployment, and all unit members require healthcare both before and after entering combat zones. Thus, the ERM uses telemedicine to help process troops remotely so no single set of local resources are overwhelmed. This sort of response to a surge means physicians and other medical personnel do not all have to travel to Landstuhl (as an example) to support the surge – and results in improved quality of care when those resources remain available to their local clinic needs – not to mention (once again) the travel savings.

“When you have 17 clinics in three countries, there’s no practical way to meet with everyone in person.”

-- Arlan Arabe, Video Network Center, U.S. Army ERM

Administrative applications

Needless to say, meetings are a nut-and-bolt, essential element of conducting strategy and operations. Personnel in *all branches* use video collaboration technologies to conduct administrative meetings. ERM in particular holds meetings with colleagues across Europe over video on a regular basis. As Arlan Arabe, Video Network Center, U.S. Army ERM puts it, “When you have 17 clinics in three countries, there’s no practical way to meet with everyone in person.”

Measurement of Success

Sometimes it can be challenging to measure the success of a technology like video collaboration when it has become as essential as the telephone. No one measures the ROI of the telephone, but we all know that it has made us all more connected, more productive, and better educated.

Each of the branches and organizations of the military Wainhouse Research interviewed for this industry brief can point to specific metrics that show the benefits far outweigh the costs of deploying video collaboration technologies:

- **ATN:** global reach, academic effectiveness, cost effectiveness using advanced technologies and rapid content dissemination, travel and cost savings.
- **TRADOC:** hundreds of thousands of learners served *annually*, improved wellness on the part of home station learners, travel and cost savings.
- **ERMC:** the ability to leverage healthcare providers across the network, improve provider availability, support troop surges, and save domestic and international travel costs.



All military and civilian personnel we interviewed believe video has helped their organization succeed in achieving their training and healthcare goals. The proof is in the evidence we have before us: a flourishing U.S. military, effectively responding to global and domestic military needs while taking care of its own, whether it be the wounded warrior returned from the sandbox of the middle east, or the newborn infant at base in Germany or Italy in need of an echocardiogram and consultation.

Perhaps the greatest measurement of success comes from recognition from one's peers. Recently several awards were given by the [U.S. Federal Government Distance Learning Association \(FGDLA\)](#) to this industry brief's subjects.

- **ERMC** received the FGDLA's **Five Star Award** in 2013, in recognition of an organization for demonstrating excellence in providing enterprise-wide distance learning solutions for the Federal Government. The ERMC was cited for its use of interactive, video conferencing technology to support training and medical education.
- **TRADOC's** U.S. Army Enterprise Classroom Project: Classroom XXI, Infrastructure Office, Education Support Division, Army Training Support Center (ATSC), also received the **Five Star Award** in 2013. The Enterprise Classroom Programs technology establishes a modernized digital classroom environment. These digital classrooms support approved instructional methodologies and instruction associated with resident training and education courses, thereby ensuring standards of interoperability, compatibility, scalability and sustainability. Through the use of

distance learning technologies, this innovative program contributes to operational and sustainment efficiencies in maximizing soldier training effectiveness in supporting the Army's Learning Model 2015 initiative.

- In 2012 the **ATN** similarly received the **Five Star Award** for its Medical Interagency Satellite Training (MIST) program – a Veteran's Administration (VA) and DOD initiative providing medical personnel education and training programs broadcast via satellite to medical treatment facility sites. These broadcasts provide medical professionals opportunities to continue their education through distance learning by using satellite as the instructional technology medium and provide the learner CME and other forms of Continuing Education. The courses are presented and accredited by medical subject matter experts and professional associations such as the American Heart Association, Centers for Disease Control, Accreditation Council for Continuing Medical Education, American Nurses Credentialing Center, Armed Forces Surgeon General, and Veterans Affairs. The MIST program has led to more than 71,000 yearly student-training hours with a cost avoidance of over \$600,000 annually. These training programs are available through any Defense Education and Training Network downlink and GETN downlink, as well as Army TNET, CRXXI, Distance Learning DTF, or Navy Learning Network sites.
- **Dr. Philip J.-L. Westfall**, Director, **ATN, Air University** received in 2013 the **Eagle Award** in recognition of an individual that has served the Federal Government distance learning community by providing exceptional leadership, vision, and advocacy. Dr. Westfall established the Center for Distance Education at the Air Force Institute of Technology (AFIT), where his pioneering efforts resulted in the development of the ATN. This ITV network also led to the establishment of the GETN inter-agency ITV network.

The Federal Government Distance Learning Association is a nonprofit, professional association formed to promote the development and application of distance learning in the Federal Government, Additionally, the Association actively fosters collaboration and understanding among those involved in leveraging technology and instructional media in support of the education and training needs of the Federal Government. The FGDLA is a chapter of the [United States Distance Learning Association](#).

Conclusion

Understanding how to field a 21st century military requires balancing many priorities while remaining in a constant state of change. It requires the ability to identify best practices, invest sensibly in the right technologies, and invest in the men and women and their families without whom successful engagements would not work.

Most federal governmental agencies – as well as all NATO / OTAN member countries – use video collaboration technologies at some level for some types of applications. All too often, though, meetings are the central application and many times the technologies in the conference room are set aside for senior staff and not available to others at lower ranks.

Furthermore, as FGDLA Board Member Russ Colbert puts it, “a major refresh is beginning to take place, with existing legacy

video collaboration systems being replaced by newer more powerful and easy-to-use products, while new systems are being introduced at all levels of governmental agencies because of cost and productivity efficiencies.”

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— Russ Colbert, FGDLA Board Member

This is not to say that other technologies also contribute to military readiness. In particular, immersive learning environments, virtual worlds, 3D simulations, simulators, and the like are in daily use for training purposes. These technologies are part of a rich fabric of approaches to training and are valuable, but they do not offer the dialectic learning environment – the context-sensitivity and “two-way-ness” available between trainer and trainee, and between trainees themselves – that is made possible by video collaboration technologies.

Thus visionaries and planners already are beginning to consider ways to extend the reach of their organizations using technologies like Polycom RealPresence Platform and its ancillary products, RealPresence CloudAxis, and the like to deliver access to personnel *wherever they are*. Any agency not yet adopting the video collaboration technologies mentioned in this industry brief should consider establishing a process for determining uses cases and ways of fitting into the larger set of trends in federal government. The efficiencies have been proven, the return on investment is clear, and the productivity and quality of life benefits are inarguable.

About the Author

Alan D. Greenberg is Senior Analyst & Partner at Wainhouse Research. He is [distance education and e-Learning practice](#) manager at Wainhouse Research, and co-lead analyst on WR's [WebMetrics](#) web conferencing survey program. He has conducted research into dozens of distance learning networks and e-learning users, authored the three-volume segment report [The Distance Education and e-Learning Landscape](#), as well as numerous white papers and reports on lecture capture, web conferencing, videoconferencing, virtual worlds, and interactive whiteboards as applied for education and e-Learning. He also has consulted to many states, universities, and regional educational consortia on distance education strategies, and received the *2010 Outstanding Leadership by an Individual in the Field of Distance Learning* award from the U.S. Distance Learning Association. Alan is editor of *The Wainhouse Research Bulletin*, a free newsletter available at <http://www.wainhouse.com>. Alan holds an M.A. from the University of Texas at Austin and a B.A. from Hampshire College. He can be reached at agreenberg@wainhouse.com.

About Wainhouse Research

Wainhouse Research, www.wainhouse.com, is an independent market research firm that focuses on critical issues in the Unified Communications and rich media conferencing fields, including applications like distance education and e-Learning. The company conducts multi-client and custom research studies, consults with end users on key implementation issues, publishes white papers and market statistics, and delivers public and private seminars as well as speaker presentations at industry group meetings. Wainhouse Research publishes a variety of reports that cover all aspects of rich media conferencing, and the free newsletter, *The Wainhouse Research Bulletin*.

About the FGDLA

The Federal Government Distance Learning Association (FGDLA) is a nonprofit, professional association formed to promote the development and application of distance learning in the Federal Government, in accordance with Section 501(c)(6) of the Internal Revenue Code for Business Leagues and chartered by the State of Ohio. Additionally, the Association actively fosters collaboration and understanding among those involved in leveraging technology and instructional media in support of the education and training needs of the Federal Government. Focused on supporting Federal Government agencies involved in distance learning, the FGDLA encourages the application of all forms of distance learning media. Additional information is available at www.fgdla.us.

About Polycom

At Polycom, we believe in the power of bringing people and teams together — regardless of location—to create experiences that push the greatness of human collaboration forward. We've been pioneering breakthrough communication experiences since we introduced the iconic triangular conference phone nearly 20 years ago. Today, more than 400,000 organizations around the globe, and across all industries, rely on Polycom solutions as the backbone for collaboration, using our award-

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winning voice, video, and telepresence solutions. Polycom video collaboration is revolutionizing how people learn, how governments protect, how healthcare is delivered, and how products are designed. Learn more at www.polycom.com.