ALLIED FIRES TRAINING NETWORK

BY LT. COL. MATTHEW R. ARROL
With the Army’s renewed focus on Large Scale (Ground) Combat Operations (LSCO), the need for digitally enabled responsive Fires has never been more relevant. Furthermore, history suggests that, while the U.S. must remain capable of acting unilaterally in LSCO, the likelihood of conducting it without allies is extremely remote. Based on this assumption, allied Fires integration is not only desirable, but also necessary, and we should work toward optimizing an approach to allied digital Fires training that ensures our readiness for collective defense. While we have had some recent successes in episodic training events, this article will argue that it is time to augment the current exercise-based approach with an enduring digital Fires training methodology that improves our current state of readiness and promotes additional investment.

An assessment of our approach to digital training and readiness should begin with a review of those factors that influence what is collectively achievable. Generally, the development and effectiveness of allied digital Fires capability is bound by three factors. The first factor is the commitment of individual nations to modernize and digitize their fire support enterprise. The second is the degree of integration achieved nationally both vertically with digital fire support systems at each echelon, and horizontally across the technical systems of other warfighting functions that provide commanders with a fully automated approach toward decision-making. The final factor is the degree of technical interoperability that can be attained between the nations, opening the door for allies to leverage the capabilities of others. All three of these factors influence and are in turn influenced by tough, realistic training which builds and demonstrates readiness.

Fortunately, for our efforts in Europe, our allies in NATO largely share our desire for increased integration and acknowledge the challenges in the current regional and global security picture. They have watched, with growing concern, the resurgent threat posed by Russia and recognize that the possibility of LSCO against a peer competitor on the continent is possible. Russian activities over the last decade, punctuated by a series of provocations including; the 2008 invasion of Georgia, the 2014 annexation of Crimea, the 2015 intervention in Syria, the ongoing support to separatists in the Donbas and ‘grey-zone’ activity in the Baltics, as well as their numerous attempts to influence democratic elections world-wide, have reinforced the need for readiness. In response, they have demonstrated their resolve through investment in high-end capabilities like automated fire support and field artillery systems and through increased participation in multinational exercises, most notably from a Fires perspective, Dynamic Front, which has grown in scope and complexity since U.S. Army Europe introduced it in 2016.

The benefit of the Dynamic Front series is self-evident; it allows fire supporters, across the Alliance and the Partnership for Peace, the opportunity to focus on training the delivery of Fires in a multinational context without the need to meet the competing training priorities of the other branches. From an automated fire support and fire control perspective, national participants (including the U.S.) get the opportunity to work through digital challenges and devise procedures and technical solutions without the pressure to rush to less optimal outcomes. Since its inception, Dynamic Front has embodied that ideal of realistic Fires training in Europe, and has been that influencer to drive change and digital Fires development. From the standpoint of the constraints on effectiveness described earlier, Dynamic Front offers an opportunity for nations to “burden share” (increasing their willingness to commit), observe (increasing awareness of what is desirable and achievable), and define the requirements for integration and interoperability; allowing for experimentation with solutions in a relatively low-risk environment. Where Dynamic Front falls short, is that it requires the Alliance to assemble physically at a training site to accomplish its objectives, and thus, is very expensive both financially, and in terms of time; resources which could otherwise be dedicated toward modernization or other collective training. To maintain and accelerate the momentum of allied digitization and interoperability we will need to normalize the inherent benefits of that exercise into unit home station training for the participants of all nations.

To bridge this gap, nations investing in their digital Fires enterprises could establish an enduring Allied Fires Training Network (AFTN), which would build on the ‘Fires-focused’ success achieved through the episodic exercise-based approach, and normalize it, greatly reducing the cost by allowing participants to remain at home station while retaining much of the training benefit of the collective exercise. Under the umbrella of an AFTN, the collective strengths of the existing and future allied virtual, constructive and simulation capabilities could be leveraged to improve the practical skills of our Soldiers, as well as further the technical development of our allies. Within this context, the AFTN is both a physical network and a cognitive network, wherein subject matter expertise and Fires training knowledge are shared alongside firing data. While there are many possible applications for which an AFTN could be employed, there are three initial applications which would significantly improve allied Fires readiness almost immediately and yield a long-lasting impact.

First, it could be used to build and sustain the training gains made in digital Fires interoperability during Dynamic Front.
by leveraging one of the cornerstones of those events, the Artillery Security Cooperative Agreement (ASCA) protocol. ASCA has been an unqualified success by any objective metric. As of Dynamic Front 19, the ASCA protocol has demonstrated its ability to pass critical mission data between signatory nations during simulations, live environments, and distributed operations across Germany, Poland and Latvia. ASCA’s proven utility is borne out by the progressive expansion of signatory nations from the first Dynamic Front to today. What ASCA lacks, is a permanent networked presence to sustain training skills and familiarize others beyond exercises. Within the AFTN, the United States could link the Joint Multinational Simulation Center, in Grafenwoehr, Germany, with the Fires Centers of Excellence of all signatory members to create the opportunity for live digital sustainment training with allies relying on the ASCA protocol. This would be relatively easy to do since most of the signatories (to include Germany, France, Italy, the United Kingdom, Denmark and the Netherlands) already have digital training labs, with some even used for the purposes of on-site local area network -based ASCA training. Linking ASCA in steady-state training will reduce the need for large-scale training events and will allow discreet troubleshooting of the protocol among nations for new and emerging capabilities. A commitment to link signatories may, in itself, act as an informal catalyst to further promote ASCA amongst the remaining non-signatories and encourage our allies to develop their digital capabilities.

Second, an AFTN could open NATO Fires web-based systems of record to the U.S. on an enduring basis, familiarizing U.S. Soldiers with the protocol; a distinct advantage for those forces stationed in, or designated for rotation to, Europe. The ability to train on systems like the Joint Targeting System, Flexible Advanced C2 Services for Time-Sensitive Targeting, and the Air Integrated Command and Control System would be a force multiplier for those forces who might be expected to operate in a post Article 5 environment. This access would further allow Army program managers access to allied systems to ensure that all future development of U.S. systems were fully interoperable with our partners.

Finally, the AFTN could improve access to joint Fires training simulators increasing realism and training opportunities for U.S. and allied joint Fires observer (JFO) / joint terminal attack controllers based on FCoE accredited frameworks. JFO and joint fire support team simulation trainers are continuing to evolve amongst our allies and leverage realistic European environments in their scenarios. Many of these newer simulators utilize the same technology for their architecture as those used by the United States, such as Virtual Battle Space Simulation System, which would facilitate integration. Of note, the German Fires Center of Excellence in Idar Oberstein, has recently made significant gains in this area. In April 2019, the German Schoolhouse in collaboration with the private corporation ESG unveiled a new joint fire support trainer, which focuses not only on individual skills but on collective joint fire support team skills. This effort is an initiative taken under the multilateral mandate established by a burden-sharing agreement known as the ‘Framework-Nation Cluster Joint Fires’ which centralizes multinational Fires training resources, to include instructors and facilities, at a centralized location. If coupled with ASCA-enabled fire direction and control systems, simulators like these on an AFTN could allow sensor-to-shooter linkage like that achieved in Dynamic Front in an entirely virtual environment.

Looking to the future, the opportunities for AFTN to improve virtual, live and constructive training for Fires are limited only by the level of ambition of the signatories. Modern distributed gaming technologies, such as those found in most network enabled games, such as Fortnite, create the opportunity for entirely immersive experiences in expansive scenarios which can layer complexity and allow our fire support leaders to work distributed with their allies on a global scale. It would further create the opportunity for them to work collaboratively and simultaneously at echelon.

Having discussed some of the benefits of this idea, as mentioned, the conditions presently exist to put the Alliance on a path towards implementation. First, there is a shared sense of urgency, evidenced by expanded allied national defense spending in response to Russian actions. Second, strategic leaders across the Alliance have recognized that we need to accelerate the speed of innovation, as evidenced by the establishment of Army Futures Command and the increased importance placed on experimentation by Allied Command Transformation. Third, in the last five years, we have already witnessed an increasing trend toward improving integration with, and among, our European allies. Evidence of this can be seen, not only in exercise participation and in ASCA proliferation, but also in the production of a whole series of new NATO Allied Doctrine (including revisions to Allied Artillery Publications 1, 2, 3 and 5) aimed at procedural unification. This trend is further exemplified in the recent assignment of the first U.S. general officer into an allied national formation (deputy commanding general, 3rd French Armored Division). Lastly, potential contributors are already expanding their virtual, live, constructive and gaming capabilities independently; it only requires agreement and national will to have these systems grow together instead of growing apart. These conditions, while currently present, may not exist forever and the
further the Alliance grows from a visible reminder of overt military provocations, the greater the likelihood that the current sense of urgency will erode. If it does, the need for a low-cost alternative to collective exercises will be more necessary than ever to retain the gains made over the last half decade.

In conclusion, the U.S. has a unique opportunity to lead the Alliance into an enduring digital Fires training network. The first step in this would be engaging key allied nations, multilaterally, at the staff-to-staff level in the same manner that established the general officer Military Personnel Exchange Program, to work toward the integration of their existing and developing simulations capabilities. One key aspect of this process would be to devise a collaborative ‘road-map’ that established agreed upon requirements for future hardware and software upgrades to aid in product development. These requirements could include specifications for the layered development of cross domain solutions, expansion and linkage of existing fire support simulation software into ASCA-enabled fire direction/fire control software, and ensuring interoperability of scenarios and exercise designs into a single accessible database. Ultimately, the success of this venture would require a long-term managed strategy that sought to connect the distributed components of the Allied Digital Fires structure in a manner that promoted development and integration, while consistently and accurately replicating field conditions at reduced cost. The long-term benefits of adopting this enduring approach to training digital Fires would significantly enhance the ability of the United States by, with, and through her allies, to fight and win with responsive Fires in LSCO.

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