



TRW Systems &
Information Technology
Group

Not your father's Army • 2

Phil-in • 3

Tactical Systems @ TRW • 4

PerSPECTives • 8

Awards & Honors • 10

January 1999

SPECTRUM



Force XXI soldiers using digitization equipment and software to increase their unit's combat power through better and quicker decision making. (Photo by Lawrence Manning.)

It's not your father's Army

Success on the future battlefield will go to those who control the flow of information. This is why battlefield digitization is a major focus of the U.S. Army over the next decade.

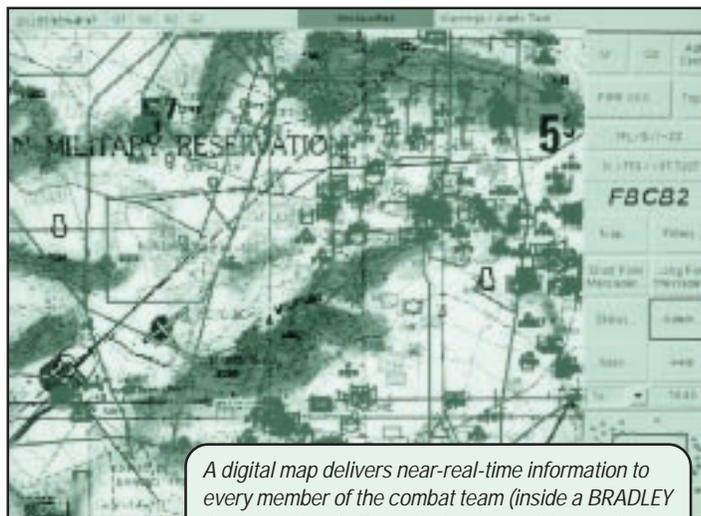
A By Alan Marcus
 s the Department of Defense (DoD) looks to the future, fundamental changes are taking place to assure that the U.S. Army can continue to mold itself into an ever more effective fighting force, even while downsizing. This is no easy task.

Success on the future battlefield will go to those who control the flow of information. This is why battlefield digitization is a major focus of the U.S. Army over the next decade. Accordingly, digitization of the battlefield has become one of the U.S. Army's highest priorities. TRW is the selected integrator for that

activity, installing equipment into 75 different varieties of platforms. This program is called Force XXI Battle Command Brigade-and-Below (FBCB2), also known as Appliqué, and will commence fielding in the year 2000.

Tasked with these sorts of critical programs, the Tactical Systems Strategic Business Unit (SBU), under Vice President and General **Manager Neil Siegel**, brings together synergistic projects and activities that were formerly in three Systems Integration Group divisions (Data Technology Division, Government Information Systems Division, and Integrated Engineering Division) and a Space & Electronics Group division (Avionics

Systems Division). Tactical Systems is organized into seven business areas – Battlefield Digitization; Air Defense; Battlefield Information Technology; Simulation and Training



A digital map delivers near-real-time information to every member of the combat team (inside a BRADLEY fighting vehicle). (Photo by Lawrence Manning.)

Systems; Products and Services; Broadband Communication Networks; and Tactical Intelligence, Surveillance & Reconnaissance.

continued on page 11

I am confident we will end the 20th century with a bang; 1999 is going to be a great year.

If you read last month's *Update* newsletter, in which I addressed 1998 high points (and not-so-high points) and talked about what we need to do to succeed in 1999, you'll know a little of how I view the future for S&ITG.

But looking again in the light of a new year, I want to "revise and extend" my remarks, as our lawmakers say on Capitol Hill. I don't think I communicated my enthusiasm for 1999 in strong enough terms. People tell me I err on the side of optimism every time – and I won't dispute them – but I honestly believe that 1999 is going to be a banner year for us. And the following year, 2000, looks even better.

Looking closely at the various sectors of our business, I see big opportunities and successes ahead in just about all of them.

Phil-in

By Phil Odeen, executive vice president and general manager, S&ITG



I talked about some of them in the *Update*. Here are some additional thoughts:

On the Federal non-defense front, I mentioned the 2000 Census effort, but I didn't begin to convey the extent of our role in this massive nationwide program. Picture a facility the length of three football fields, employing 2000 people (that's a number, not the year) who are processing half a million census forms every day. And this is just one of three such facilities across the USA. The scope (and challenge) of the task is worthy of an organization of our talents.

In the state and local area, a series of 1998 wins provide the platform for rapid growth this year. They span the law enforcement, welfare, and healthcare market areas. While our primary focus remains on building and integrating complex information systems, we see promising opportunities to broaden our role in growing markets such as privatization and telecommunications.

In the international market, we see a number of major opportunities flowing from our cutting-edge fingerprint system in the U.K. (NAFIS) and our radio/telecom systems in the state and local marketplace (e.g., Ohio MARCS). Europe is about to upgrade its emergency services system and we have the right partners and experience.

In the defense area, TRW is emerging as the leader in joint modeling and simulation, with increasing presence in the Tidewater area of Virginia, the home of U.S. Atlantic Command. This is one of the few true growth areas in defense and there are opportunities with defense agencies worldwide. Other exciting areas include a range of Army digitization-related opportunities and our growing role with the Space and Strategic Commands.

In the intelligence area, we have the opportunity to penetrate a new, large area of business now dominated by a major competitor. We are already a leading player in the intelligence market and this win would strengthen our position materially.

On the commercial front, we're starting to see new opportunities arising out of our Y2K work and beginning to build a solid, successful integrated supply chain business. We also have promising initiatives in other areas such as pharmaceuticals.

We now have the critical mass, the contracts, the market savvy, and the essential expertise to become a recognized industry leader in systems engineering and information technology. Yes, it will take hard work and commitment and it won't happen overnight, but I want to go on record – especially with any remaining naysayers and pessimists out there – that this organization is destined for greatness. Join me in working to make **sure** it happens. ●

The mission of Tactical Systems and its 1,400 employees is to be government's and industry's preferred choice for solving difficult, nationally-critical problems in battlefield digitization – information technology for the warrior

– and also to leverage key capabilities from those solutions back into commercial information systems. Tactical Systems is responsible for command-and-control, mission planning, simulation, and system engineering activities for the U.S. Army and other agencies.

One of a number of defense-related strategic business units in S&ITG, **Neil Siegel's** organization encompasses a comprehensive, far-reaching, and diverse spectrum of business areas, specializing in integrated battlefield information systems. The primary loca-

The many facets of successful leadership

“Leadership has many facets. **Joe Gorman** always talks about the three constituencies – customers, employees, and stockholders. My leadership style has always been to place

a lot of emphasis on the first two... and trust that if I combine that with sound business decisions, it will also serve the stockholders,” says **Neil Siegel**, vice president and general manager, Tactical Systems.

big dependence on all the members of the team to make a contribution. Effective teamwork is the operative concept.

“There's a very strong sense of what I like to call 1+1=3,” Neil says, “finding ways to add and



Neil Siegel

“By placing the emphasis on customers, we have delivered profitable business growth, and with an emphasis on employees, we've been able to attract and retain the kind of people who distinguish us from our competitors.” – Neil Siegel

“By placing the emphasis on customers,” Neil continues, “we have delivered profitable business growth, and with an emphasis on employees, we've been able to attract and retain the kind of people who distinguish us from our competitors.”

Neil relies heavily on his staff to deliver. “I'm fortunate to have a really outstanding team in Tactical Systems. I give them strategic guidance and hard challenges, and they deliver great performance and results,” Neil states.

Neil's key staff managers – his finance and business director, contracts manager, and human resources director – are very involved in cross-the-board business strategies. There's

combine skills and capabilities within the organization – or put elements together between Tactical Systems and other organizations – to go after the customer or procurement.”

But there's also another facet to his strategy that's vital to successful leadership. “I delegate a lot of authority to my staff. I operate on a basis of trust... and they have never let me down. Obviously that trust has been built up over time with each of our key people, and also with our customers. We've taken very significant risks based on verbal okays from our customers. We would not be where we are today if there wasn't that level of trust between my subordinates and myself, as well as between my customers and myself,” states Neil.

Business Unit

tion is Dominguez Hills, Calif., and other major sites for Tactical Systems include Chester, Va., Fort Monmouth, N.J., Huntsville, Ala., Killeen, Tx., Orlando, Fla., San Antonio, Tx., San Diego, Calif., and Troy, Mich. ●

According to Neil, "This element of trust has been a big contributor to the success of the organization and has allowed us to accomplish things that, in a more ordinary business environment, might have had to wait awhile for the paperwork to be done. We couldn't have done things as effectively, as fast, or as profitably."

Neil points out, "There's a very deliberate element in my leadership style as to how people are treated. Treating people nicely, listening to their opinions, never being rude or displaying anger – that's a contributor to good business practices and to the kind of employee environment I think is effective for the company. We have a great organization with tremendous potential. We're doing great stuff for our customers, our employees, and our stockholders. The numbers for '98 are outstanding and the estimates for '99 look like another terrific year."

Tactical Systems is an integral part of Systems & Information Technology Group and TRW. As Neil sums up, "We're contributing to the top line, the bottom line, and the reputation of the company."

And with hands-on leaders like Neil Siegel, it's a good bet that TRW's reputation and success will continue to grow, across and throughout the markets served so well by Tactical Systems. ●



Wheeling-Pittsburgh Steel taps TRW for IT and telecommunications

When the nation's ninth-largest steel producer – the Wheeling-Pittsburgh Steel Corporation (WPSC) – decided to find a company to modernize and operate its IT and telecommunication systems, it turned to TRW and Tactical Systems.

WPSC places a high value on its commitment to utilize new technology to produce steel in an environmentally sound manner. This commitment to protecting the environment has been recognized by the U.S. Environmental Protection Agency.

Now WPSC has awarded TRW a \$70 million contract to modernize and operate its IT and telecommunication systems. The 60-month effort includes integration of a variety of business application software packages to replace WPSC legacy applications and provide superior functionality to support WPSC's ongoing operations. Additionally, TRW will operate both the legacy and new systems, as well as phone and data networks, desktop and helpdesk management, and provide overall program management.

This win signifies a major market expansion for Tactical Systems, providing familiar technologies and services to new customers. According to Acquisition

Manager **Jim Connolly**, "The project was initially brought to the attention of Tactical Systems via a former BDM commercial sales representative." BDM's proven experience in IT, plus TRW's unrivaled expertise in systems integration, proved to be an unbeatable combination in winning the contract. The majority of

BDM's proven experience in IT, plus TRW's unrivaled expertise in systems integration, proved to be an unbeatable combination in winning the contract.

the work will be performed at TRW's Dominguez Hills, Calif., facility and on site at WPSC's headquarters in Wheeling, W.Va. Under the contract terms, 34 WPSC employees will become part of TRW.

TRW's effort is sponsored by the Products and Services business unit of Tactical Systems under **Neil Siegel**. The key people involved in this win were: **Paul Pratt**, contracts; **Holland Whitten**, proposal manager; **Mike Springman**, system architect; **Rob Konosky**, TRW account manager; and **Tom Fistic**, who led the cost/price development effort, and **Jim Connolly**, Acquisition Manager. ●

Tactical Systems units span seven business areas

Tactical Systems has been organized into the following seven business areas:

↳ **Battlefield Digitization** is one of the U.S. Army's highest-priority activities, and has immense potential in multiplying the effectiveness of land combat forces through information technology.

↳ **Air Defense** spans a wide range of air defense command-and-control air operation systems. Activities in this business area also include design and integration of Tactical Operations Centers for the U.S. Army.

↳ **Battlefield Information Technology** has as its focus the application of commercial information technology to DoD missions.

↳ **Simulation and Training Systems** serves as a center of excellence for battlefield simulation to develop integrated systems for training the 21st century warfighter.



↳ **Products and Services** supplies advanced information technologies to a broad range of new and traditional customers, most notably advanced perimeter security systems.

↳ **Broadband Communication Networks** is the TRW focal point for telecommunications resources and technologies,

integrating voice, video, and data onto broadband communication backbones.

↳ **Tactical Intelligence, Surveillance & Reconnaissance** provides life-cycle support of systems that contribute to information dominance for the warfighter at the tactical echelons. ●





On land or undersea, TRW goes where the action is

Bosnia

TRW's commitment to our customers often goes way beyond designing, upgrading, and delivering projects. That's why an elite team of Combat Service Support Control System (CSSCS) technical experts, including TRW personnel, is currently assisting the 1st Brigade, 1st Cavalry Division, in Bosnia-Herzegovina, where they're installing and operating CSSCS system for Task Force Eagle. CSSCS provides critical logistical, medical, and personnel information to force-and theater level commanders in a timely, integrated, and accurate fashion.

TRW's commitment to our customers often goes way beyond designing, upgrading, and delivering projects.

Tactical Systems VP and GM **Neil Siegel** states, "As an important part of our commitment to our customers, we do support our systems, even if it involves hazardous situations. We solicit volunteers from our employees to go on what's called "Status of Forces" and accompany the U.S. military to go and operate our systems. It's just part of the job description."

Neil points out, "We had people in Saudi Arabia during Desert Storm and Desert Shield. We've always had plenty of volunteers... people committed to what our customers believe in... people who take the risk and go to the front." ●

San Diego

"When you're dealing with things on the ocean floor, you need people who understand that environment and who are as close as possible to your customer," says **Jane Renninger**, program manager for TRW's work in support of the U.S. Navy's Space and Naval Warfare Systems Command (SPAWAR) Intelligence, Surveillance and Reconnaissance directorate. That's simply called PD-18 support, for short.

When the Navy relocated SPAWAR from Washington, D.C. to San Diego, Calif., there was no question that TRW would follow suit and stay close. "Since then (1997), we relocated seven key employees from Virginia and we've hired a tremendous staff locally," Renninger says. "I was particularly fortunate" she emphasizes, "to be able to hire people out here on the West Coast who had experience in the undersea surveillance world – experts in things like underwater acoustic signal processing, towed array sensor systems, and sonar systems."

An East Coast facility supporting PD-18 activities still exists in Crystal City, Va.,

managed by **Steve Buck**, a long-time TRW employee. But 52 members of Renninger's current 69-person group are on the West Coast, including her first San Diego hire, **Dr. Eugene Hardekopf**, who is senior engineer/scientist on the project and Renninger's assistant program manager for C4I. Thirty-four group members are former military and 10 of these are women, including **Diane Oliver**, assistant program manager for Fixed Surveillance Systems.

"When you're dealing with things on the ocean floor, you need people who understand that environment and who are as close as possible to your customer."
- Jane Renninger

No matter where the action is, Tactical Systems is there, supporting our clients and helping win plaudits for TRW (including recent back-to-back 95 award fee scores for the PD-18 team). "It's the only way to operate," says Renninger, "being where the customer needs you to be and doing the very best job you can. It's the TRW way." ●

Darryl Fraser leads strategic communications efforts at S&ITG

When you start hearing and reading more about what we do at S&ITG, it will very likely reflect the expertise, initiatives, and communications strategy of **Darryl Fraser**, S&ITG's new director of communications, who came aboard in early December.

While Fraser is new to this position, and the position itself is new, he's certainly not a newcomer to TRW. His 19-year record of TRW service has spanned everything from engineering assignments (he's a graduate chemical engineer from M.I.T.) to strategic planning (he's an MBA from UCLA, too) and from marketing to lobbying.

"Most of what I've done, though," Fraser explains, "has been focused on communications – or depended on it – and I'm really looking forward to this new opportunity. I think communications is absolutely vital to getting us the recognition we need and deserve in today's hugely competitive business environment."

Executive Vice President and General Manager **Phil Odeen** couldn't agree more. "As our Group continues to grow, it must have an effective strategic communicator to project our business goals and accomplishments to customers and the public," Odeen says, adding, "Darryl is uniquely equipped to meet this challenge, with a strong

This is actually the second time Fraser has directed communications for a TRW Group, having played that role for the Space and Technology Group in Redondo Beach, Calif., earlier this decade. Among his achievements was managing the public relations, advertising, and special events

functions associated with three successful launches of TRW spacecraft from Cape Canaveral.

He subsequently became director of government relations for TRW's Washington Office, serving as the company's principal lobbyist on authorization issues for defense and national security

programs, with assignments also involving TRW's civil and commercial sector business.

"I want more people who are important to our future to view us as a pacesetter and leader in systems integration and IT," Fraser says. "This will take communications teamwork and collaboration as well as new initiatives and strategy. It's just the kind of challenge I've been looking for." ●



"I want more people who are important to our future to view us as a pacesetter and leader in systems integration and IT."

– Darryl Fraser

technical background that complements his communications expertise, plus his extensive experience in planning, business development, and government relations."

Fraser reports directly to Odeen and will lead an integrated communications function encompassing strategic, marketing, and internal communications as well as media and community relations.

Doing ordinary things with extraordinary love

One hundred and eighty-seven S&ITG employees, spouses, and friends painted, patched, planted, and repaired at the Alice C. Tyler Village of Childhelp East in Culpeper, Va. Childhelp is the national organization whose purpose is to raise public awareness of child abuse, the prevention of child abuse, and finally the treatment for those children who are its victims. The Village offers safe haven and refuge to 52 children who are receiving the intense treatment they need to recover from the devastation of child abuse.

The money needed to buy necessary supplies, trees, and shrubs was donated by hundreds of TRW employees and from the sale of the remaining stock of BDM marketing and promotional items. S&ITG Executive Vice



"The Odeen Cottage" is backdrop for hardworking team of 187 from TRW.

President and General Manager **Phil Odeen** and wife **Marge**, longtime supporters of the Childhelp cause, were among the hard-working helpers at the November 7th TRW work project day. The Odeens currently serve on the national and local Childhelp boards and have contributed years of their time, energy, and money to support the organization nationally and locally. In fact, one of the buildings at the Village – the Odeen Cottage – was named in their honor.

Michael Caplin, director of Childhelp USA Eastern operations, commended the contin-

ued efforts of the Odeens and TRW employees. "Your contributions, labors, and generous donations have made it possible for us to do so much for the children," Caplin says. "Even the most ordinary things – like painting a building or planting a tree – have such an incredible impact on our children because they are truly labors of love."

Special thanks and recognition to **Tammye Herold** and **Tom Dubler** who worked tirelessly to organize the day's events and to Tom Berry of Berry's Lawn and Landscaping, for donating his time and talents. ●

S&ITG selects six new Technical Fellows

S&ITG has recently completed the selection process for new Technical Fellows for 1999. Selected to begin new three-year terms are:

Mike Borky, Technical and Training Services; **Roger Card**, Integrated Information Technologies; **Mark Erard**, Public Sector Solutions; **Chris Hawkins**, Electromagnetic Systems; **Kim Ong**, Public Sector Solutions; and **Maria Penedo**, Tactical Systems.

Also re-confirmed for additional three-year terms are current Technical Fellows **Ken Aull**,

S&ITG Staff, **John Kim**, Federal Information Technology; and **John Walsh**, Strategic Systems.

S&ITG annually selects Technical Fellows who represent the company's highest caliber of scientific, technical, and systems engineering talent. Selectees must have a minimum of 10 years professional experience, including at least two years at TRW. They also must have the highest standards of personal integrity and an outstanding record of performance, technical accomplishment and

leadership, and authorship of technical and professional papers.

The program provides an alternate career path for outstanding technical employees, affording career growth and recognition while allowing them to continue their technical contributions. It encourages innovation and achievement while maintaining S&ITG's reputation as a preferred employer for those with outstanding technical talent.

We congratulate our new and continuing Technical Fellows. ●

Awards & Honors

S&ITG CAREs for employees

TRW has won a Northern Virginia Family Services' 1998 CARE (Companies As Responsive Employers) Award in the large multi-national company category. The award annually honors Northern Virginia companies recognized as leaders in implementing family supportive benefits and

policies to promote a healthy work-life balance among employees. **Bob Waters**, S&ITG vice president of human resources, accepted the award for TRW.

"I was honored to receive this award on behalf of our Group," Waters says. "I recognize that this was a team effort, and I thank the TRW CARE Award Committee who worked diligently to submit our winning application, and the rest of our HR team that helped to create a family-friendly work environment acknowledged as one of the best in our industry."

The committee, led by HR manager **Lee Stratton**, included **Judy McFarland**, director of employment, diversity & group staff; **Jeanette Engel**, former BDM director of compensation; **Lois Spreen**, benefits manager; **Dixie Mauck**, benefits representative; and **Brandie Renwick**, HR specialist.

The CARE Award reflects the conviction of its sponsor that communities are strengthened by family-friendly workplace environments, and the belief that family-centered policies benefit employers and employees alike. The selection process focuses on three main areas: policies and benefits, ease of utilization, and company culture and philosophy.

S&ITG showed particular strength in its flexible work arrangements. Employees testified that a very accommodating and flexible atmosphere exists. Job sharing and telecommuting programs have been in place for some years, and compressed workweeks, flextime, and part-time schedules are also among the flexible work-life programs enjoyed by employees. ●

Security programs earn distinguished Cogswell Awards

By Bill Gorman, security education and training manager

Two TRW Systems & Information Technology Group (S&ITG) facilities in New Mexico were selected to receive the prestigious and highly coveted James S. Cogswell Award in recognition of their outstanding security programs. The awards were presented by the Defense Security Service (DSS) to the TRW Albuquerque Test, Engineering Services, and Training facility (a facility of the former SIG) and the Albuquerque office of the former BDM.

Recipients of the Cogswell Award are chosen for their superior security programs, and winning the award requires a total team effort from facility management,

employees, and the facility security officer. **Cindy DeMoss** and **Sandra Griego**, the facilities' security officers, were elated.

DeMoss, a nine-year TRW employee, said that winning the Cogswell Award, a goal she established early in her career, was "terrific!"

Griego, a 13-year employee, believes that the Cogswell Award represents "a great accomplishment."

"These are two huge wins for TRW Security and I could not be more proud of what Cindy, Sandra, and these two organizations have achieved. To have two such prestigious awards come at the same time in the same city is

something worthy of *the Guinness Book of World Records*," said **Monte**

Dickey, director of security, S&ITG.

The Cogswell Award was named for the first chief of the Office of Industrial Security and was established in 1966. It recognizes outstanding industrial facilities within the defense portion of the National Industrial Security Program. Of the 11,000 cleared defense contracting facilities under the cognizance of the DSS, only 56 received the award. ●



Army award winner



Major General Doesburg honors TRW's Anne Morton with distinguished award.

Anne Morton, a manager with S&ITG in McLean, Va., was recently presented with the U.S. Army Soldier and Biological Chemical Command's (SBCCOM) Distinguished Service

Award. The prestigious award, presented by Major General John Doesburg, Aberdeen Proving Ground, honored Morton's leadership in the design, development, integration, deployment, and training for the Chemical Accountability Management Information Network (CAMIN). Since its inception in 1985, only 29 such awards have been presented. ●

Rushavich honored

Bryan Rushavich was singled out by the commander, Defense Energy Region Korea, and the director, Defense Energy Support Center, for his outstanding support and contributions during military exercise Ulchi Focus Lens 98 conducted in the Republic of Korea. A database application he developed was used to capture and manage fuel inventory information and transportation movement requests, critical to the exercise.

Rushavich is assigned to TRW's Information Systems and Program Evaluation group at Fort Belvoir, Va. ●



Bryan Rushavich is presented with a Certificate of Appreciation by Gary Thurber, director, Defense Energy Support Center.



Inside a Tactical Operations Center during field operations. (Photo by Lawrence Manning.)

It's not your father's Army

continued from page 2

Using information to improve the effectiveness of U.S. Forces is the goal of the FBCB2 program, a cornerstone of the U.S. Army's vision for force multiplication through battlefield digitization. This program is defining techniques and concepts which will take Army command and control into the 21st century, permitting U.S. Army troops to out-think, out-maneuver, and out-fight any potential enemy.

FBCB2 inserts advanced information system automation technology into the battlefield at echelons brigade-and-below, to provide real-time situational awareness and command and control. From the foot soldier to the upper echelons of the Army commanders, FBCB2 has set the stage for a fundamental change in the manner of how war is conducted, decisively reducing the fog of war and giving battlefield commanders the information they need when they need it.

Maximizing the potential of leading-edge information technologies, TRW is spearheading this revolution in military warfare.

FBCB2 uses the Tactical Internet, a new communications concept developed by TRW, to gather and distribute critical combat information to soldiers, units, and battle commands in near real-time. The data allows the vehicle, airframe, and dismounted soldier platforms equipped with FBCB2 to see friendly and enemy forces displayed on a digital map background, with associated battlefield symbology.

Maximizing the potential of leading-edge information technologies, TRW is spearheading this revolution in military warfare. The company's experience and commitment to

continued on page 12



Putting the M1 through its paces during the Force XXI Advanced Warfighting Experiment at Fort Irwin. (Photo by Lawrence Manning.)

A camouflaged Tactical Operations Center on site at Fort Irwin. (Photo by Lawrence Manning.)



It's not your father's Army

continued from page 11

excellence is proving key to helping the Army increase lethality, survivability, and flexibility of U.S. and allied land combat forces.

In addition to FBCB2, TRW's role on the digital battlefield involves many other systems developed by TRW. These components include:

- ➔ The Battlefield Combat Identification System (BCIS) – provides data identifying friendly forces to gunners, to avoid fratricide.
- ➔ The Combat Service Support Control System (CSSCS) – tracks data relating to provisions, fuel, ammunition, vehicles, and personnel, providing timely information to battlefield commanders.

- ➔ Forward-Area Air Defense Command, Control, and Intelligence (FAAD C2I) System – helps defend against enemy air threats. It provides the capability to maneuver forces near the forward line of troops, through integration of battlefield sensor data via real-time cueing and alerting inputs. This critical air defense program facilitates joint and combined operations by processing air picture information.

- ➔ Hunter Unmanned Aerial Vehicle (UAV) – can find the enemy anywhere on the battlefield.
- ➔ Tactical Operations Centers (TOCs) – integrate information from many sources, permitting the rapid assimilation of much complex information in a short time for commanders and their staffs. ●

SPECTRUM

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