



KE0

Comprehensive 360° Situational Awareness for the Crew Served Weapons Leader



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- **Threat: Multitude of asymmetric threats across full spectrum of operations, to include Military Operations in Urban Terrain.**

Soldier's Tasks:

- Conduct kinetic and non-kinetic engagements with enemy combatants.
- Protect the local populace.
- Minimize collateral damage on the battlefield.
- Maintain non threatening posture towards local nationals.

- **Blue Force Gap: Narrow Field of View/RWS observation systems do not provide adequate situational awareness to Soldiers.**

Mission Accomplishment risk and complexity increases:

- Soldiers remain exposed.
- Existing EO/IR systems lack a 360 degree EO/IR capability. (*Lack glass cockpit*).
- Multitude of sensor/data inputs creates "*information overload*".
- Adverse impact on mission accomplishment. (*Limited "See first - Hit first" capability*).

- **Solution: Close the identified gap and speed the Soldier's decision cycle.**

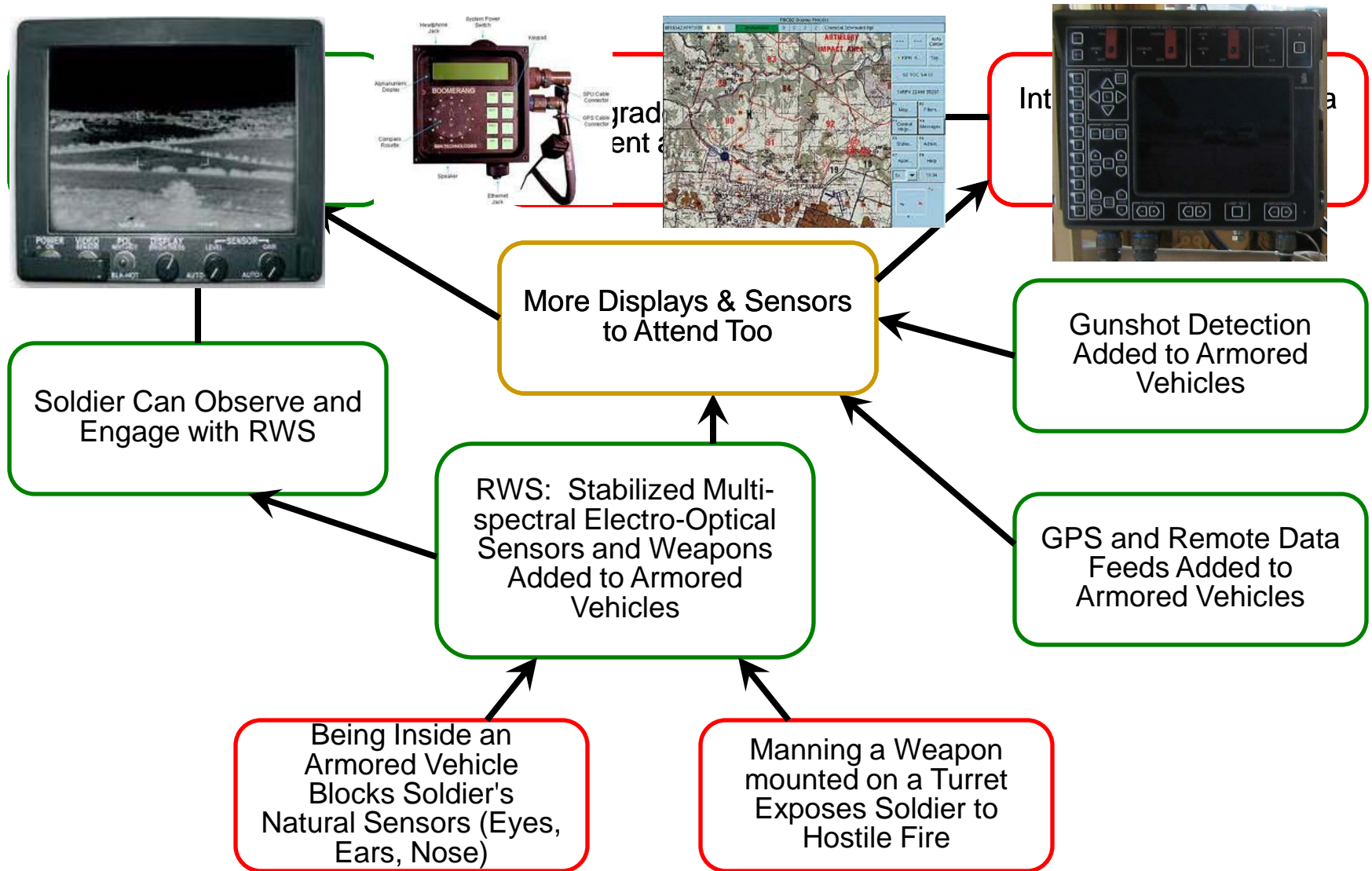
Provide a 360° imaging system that increases the *operational effectiveness* of the Platform:

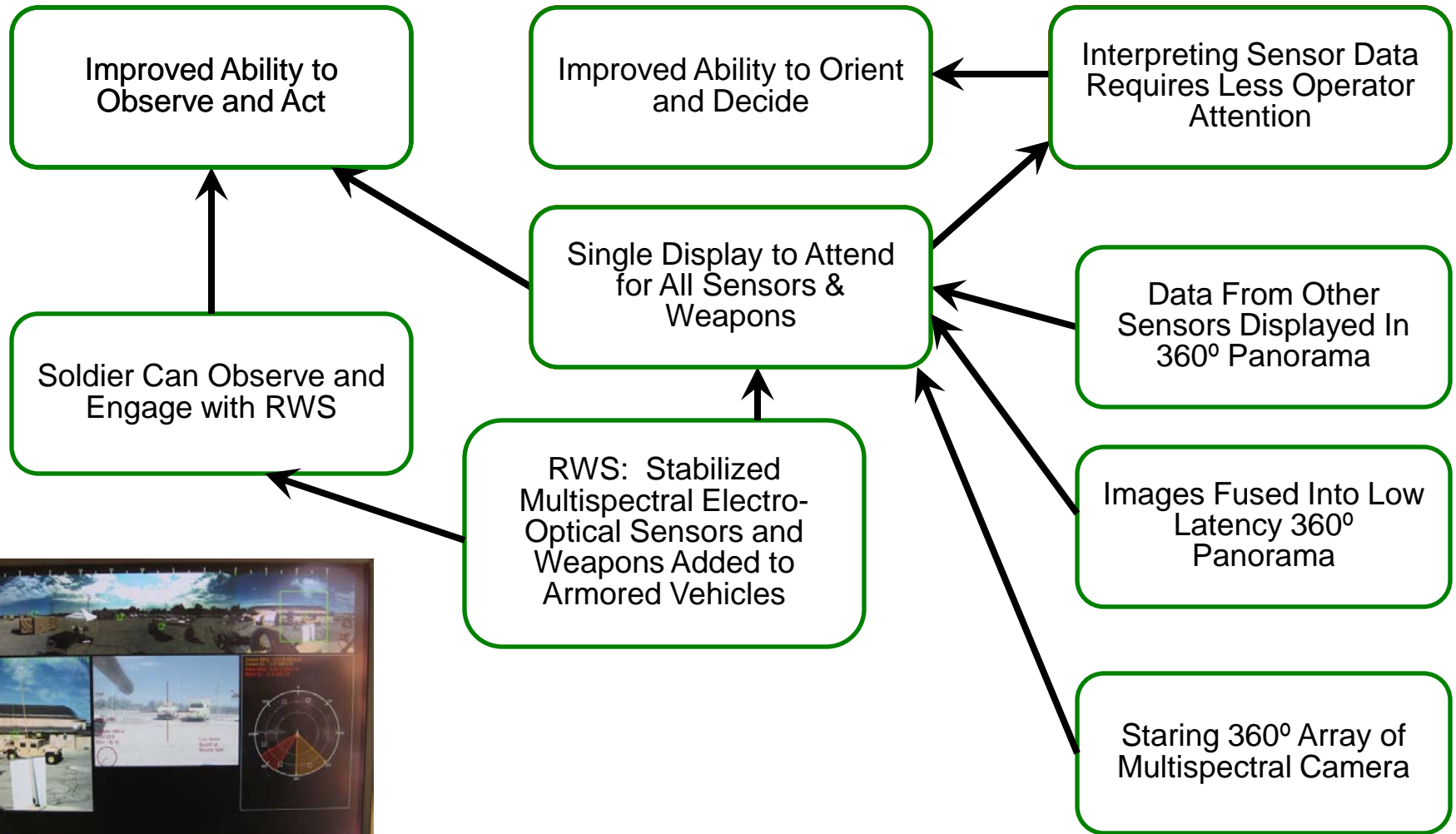
- Present the Soldier with actionable information at the Squad Level.
- Enable the Soldier to see while operating under armor (*Create glass cockpit*).
- Provide Slew-to-Cue and other system integration (*Intelligent system integration*).
- Result in Squad Leader regaining the tactical advantage (*Provides Overmatch*).



L-3 KEO Company Proprietary







Single Display

(Interface all sensors/
weapons/FBCB2 feed)

OODA- Observe, Orient, Decide, Act

■ OODA Loop:

- Accepts the uncertain, continually changing environment and thrives upon the chaos of the battlefield
- Enables Soldiers to be comfortable in an ambiguous/chaotic environment and control the situation

■ Key to Winning = Exploit the OODA Loop:

- Soldier can navigate through the OODA cycle faster and reach a decision before the enemy can react.
- Soldier can cut through the “fog of war” and gain better tactical awareness of his surroundings.

■ Materiel solution required:

- Provide the Squad Leader with a highly integrated and easy to use Situational Awareness system
- Provide actionable information at the Squad Level
- Avoid sensor and cognitive overload



360° EO/IR Situational Awareness System Speeds Blue Force OODA Loop

Vehicle Platform

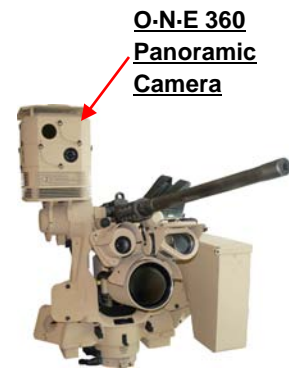


Current Fight (SA Systems)

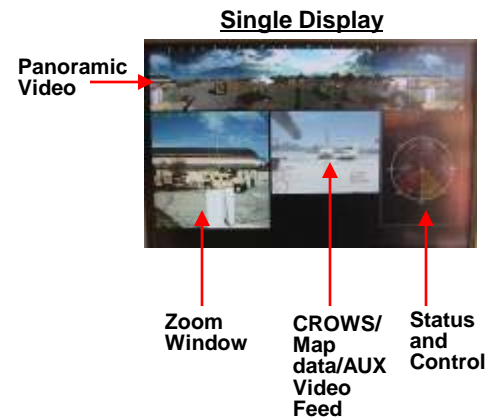


4 separate and independent displays to monitor as a Squad Leader/ Crew Served Weapons Leader

Future Fight (SA Systems)



Single display to monitor as a Squad Leader/ Crew Served Weapons Leader



Addition of 360° SA System Increases Tactical Advantage of Blue Force

- **COL Boyd's Study of the F-86 Versus the MiG:**
 - F-86 aircraft had a glass canopy giving the pilots a 360° field of vision.
 - F-86 Pilot had a much easier time observing his enemy than the enemy had of him.
 - Exploitation of the OODA Loop must be conducted to win in "4th Generation of Warfare" posed by terrorist and non-conventional forces.

- **Key Advantages of a 360° SA System:**
 - **360°imaging** increases the *operational effectiveness* of the Platform
 - Soldier's see the entire battlefield instantaneously and continuously while under armor (**Creates glass cockpit**)
 - **Slew-to-Cue** and other system integration (i.e., Hostile Fire Detection, SIGINT, VICTORY) complement the Platform
 - Gives a tactical advantage to the Platform and Squad (**Provides Overmatch**)



F-86
Full 360°FOV
(Advantage)



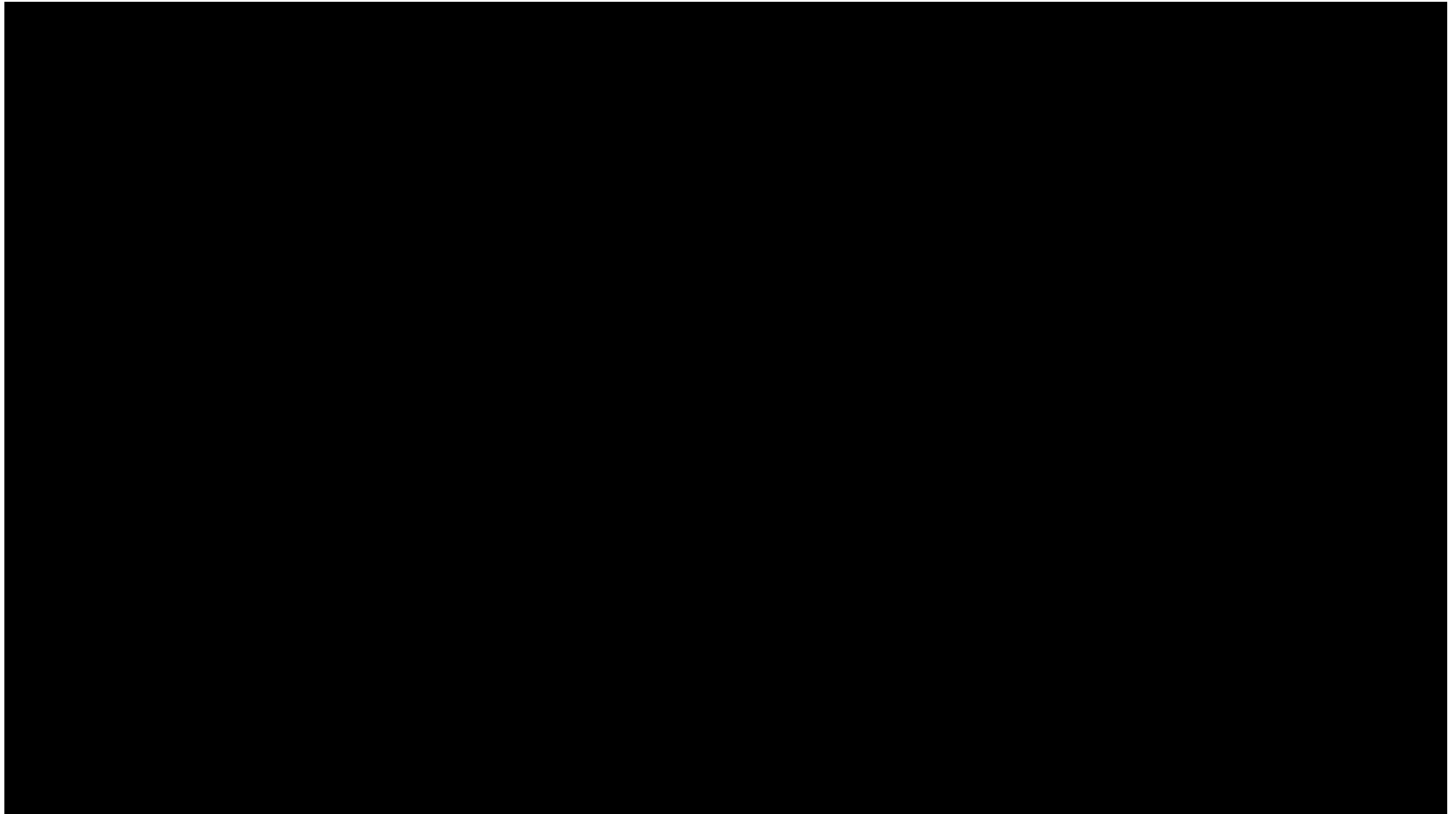
MiG-15
Restricted FOV
(Disadvantage)



O-N-E 360
Full 360° FOV
(Advantage)



M-153
45° FOV
(Disadvantage)



- **Close the Operational Gap on CROWS with 360° Capability**
 - Allows the Soldier to see the entire battlefield instantaneously and continuously while under armor (*Create glass cockpit*)
- **Provides Comprehensive 360° Situational Awareness for the Crew Served Weapons Leader**
 - Provides actionable information at the Squad Level
 - Avoid sensor/s and cognitive overload on the Squad Leader (Intelligent System Integration)
- **The Squad Leader needs a highly integrated and easy to use Situational Awareness system**
 - Use the OODA Loop to our advantage- Save Soldier's Lives
 - Increase the operational capability of the Squad Leader and Crew Served Weapons Leader- Regain the advantage over the enemy combatant



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