

#GOVANALYTICS2017



2017 Government Analytics Forum Transforming Government in the Cognitive Era

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Big Data and Tomorrows Super Force

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Sandbagged by firing positions surround the helicopter parking ramp at DaNang.





Hypothesis:

***Cognitive machines
can provide tactical
advantage to US
troops on the
battlefield today.***





Challenges on the battlefield

- Too much data
- Wrong data
- Complex data
- Too many tasks
- Adversaries hide
- Fog of war



Cognitive Advantage

- Tireless reader and parser
- Synthesizer
- Presenter of information
- Filter of information
- On demand information



Cognitive, from IBM's Point of View

- Not A.I.
- Augmented Intelligence
- Cognitive machines perform mundane
- Perform heavy lifting
- Create connections, especially the non-obvious
- *Humans decide, not machines*



Cognitive, at the Tactical

- “S2, where were IEDs discovered over the last 30 days along Route Bronze?”
- “N2, how many surface-to-air missile does the adversary possess? How many are near my flight plan?”
- “G2, who is the tribal leader, imam, and doctor in Abu Bakr village.”
- “A2, where are all the C5-capable airfields in Khazakstan?”



Cognitive, Sensors and Coms



**Watson
Conversation**



Watson Explorer



**Watson Visual
Recognition**



**Watson Speech
to Text API**

Cognitive Tactical Leader Assistant

- “S2, my mission 5-paragraph order is filed. I am Sgt. Smith. What is the best route into my objective?”
- “What is the best route out of my objective?”
- “Where are my supporting units in case I get into trouble?”
- “What route provides best cover from sniper fire?”

CAS BRIEFING FORM (9 Line)
(Omit data not required, do not transmit line numbers. Units of measure are standard unless otherwise specified. * Denotes minimum essential in limited communications environments. Bold denotes readback items when requested.)

Terminal controller: "_____ this is _____ (terminal controller)"
(aircraft call sign) (magnetic)

1. IP/BP: "_____ (IP/BP to target)" (left/right)

2. Heading: "_____ (IP/BP to target)" (left/right)

Offset: "_____ (IP-to-target in nautical miles / BP-to-target in meters)" (in feet MSL)

3. Distance: "_____ (IP-to-target in nautical miles / BP-to-target in meters)" (in feet MSL)

4. Target elevation: "_____"

5. Target description: "_____"

6. Target location: "_____ (latitude/longitude or grid coordinates or offsets or visual)" Code: "_____ (actual code)"

7. Type mark: "_____ (WP, laser, IR, beacon)" Code: "_____ (actual code)"
Laser to target line: "_____ degrees"

8. Location of friendlies: "_____"

9. Egress: "_____"

In the event of a beacon bombing request, insert beacon bombing chart line numbers here.

Remarks (As appropriate): "_____ (threats, restrictions, danger close, attack clearance, SEAD, abort codes, hazards)"

NOTE: for AC-130 employment, lines 5, 6, and 8 are mandatory briefing items. Remarks should also include detailed threat description, marking method of friendly locations (including magnetic bearing and distance in meters from the friendly position to the target, if available) identifiable ground features, danger close acceptance.

Time on target (TOT): "_____ plus _____ Hack"

QR

Time to target (TTT): "Stand by _____ plus _____ Hack"

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“This is a pretty simple construct. You are fighting like the dickens on one block, you’re handing out humanitarian supplies in the next block, and the next one over you’re trying to keep warring factions apart. ...It is not an environment for specialists, who may find themselves in the middle of a firefight that they were not prepared for. This is the kind of complex environment that well-trained expeditionary forces must be prepared to deal with.

We are extending the concept a bit, and beginning to talk about adding a new dimension. We’re adding a fourth block—which makes it the Four Block War. The additional block deals with the psychological or information operations aspects.”

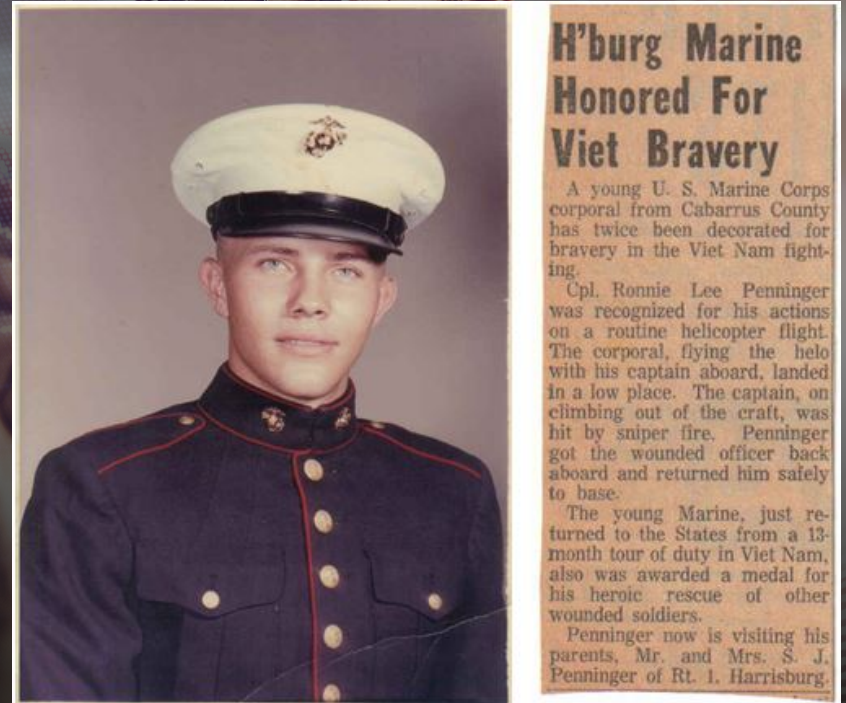
- *Future Warfare: The Rise of Hybrid Wars*, Proceedings, November 2005, **Lieutenant General James N. Mattis, U.S. Marine Corps and Lieutenant Colonel Frank G. Hoffman U.S. Marine Corps Reserve (Retired)**

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THANK YOU

QUESTIONS?



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