

WIRELESS EMERGENCY RESPONSE TEAM

***2006 CQR
International Workshop***

June 8, 2006

KARL RAUSCHER, WERT FOUNDER & PRESIDENT

Karl.Rauscher@wert-help.org

+1 610 966-3252

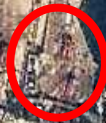
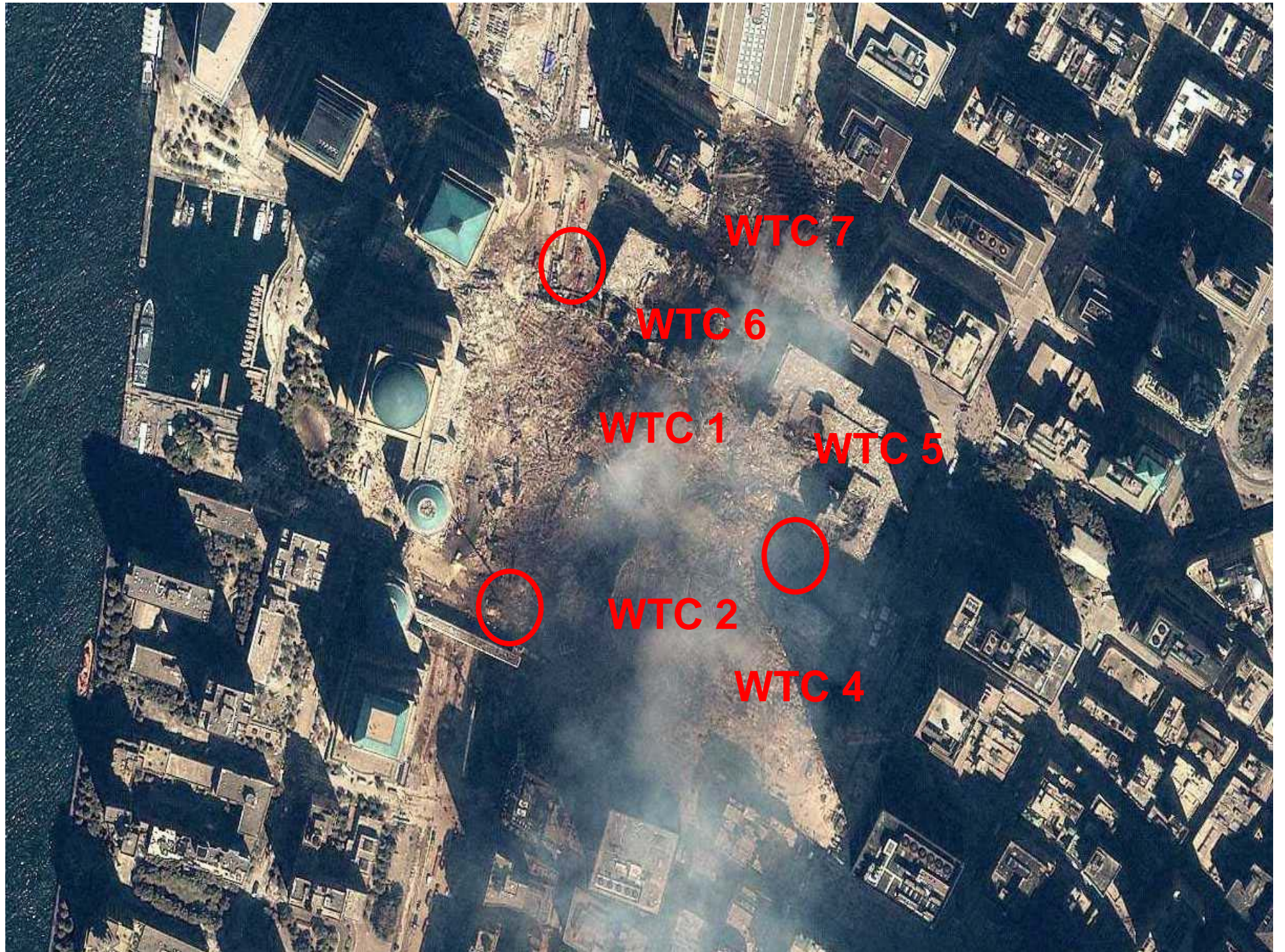




immediate
debris field

extended
debris field





WTC 7

WTC 6

WTC 1

WTC 5



WTC 2

WTC 4



Extended Debris Field



Extended Debris Field

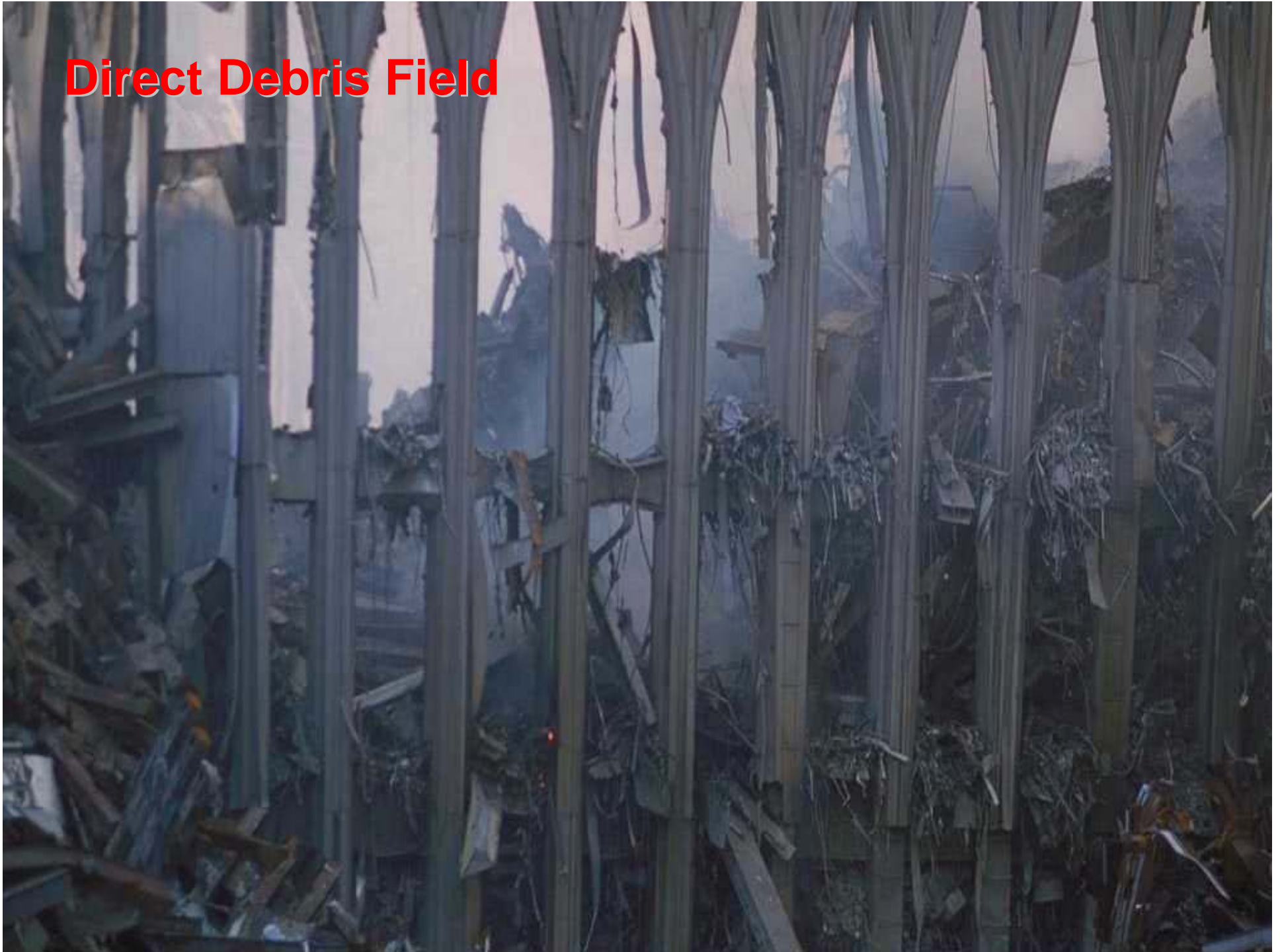


Extended Debris Field



strong scattering and channeling environment

Direct Debris Field



WIRELESS EMERGENCY RESPONSE TEAM

September 11, 2001

*The Wireless Emergency Response Team
was established on the night of September 11, 2001
to provide coordinated wireless industry mutual aid support
for Search and Rescue efforts
at the World Trade Center rubble site.*

... using wireless technology to save lives

WIRELESS EMERGENCY RESPONSE TEAM

Advanced Search Techniques

Distribution of Service Provider Percentage of WERT Cases (~4,000)

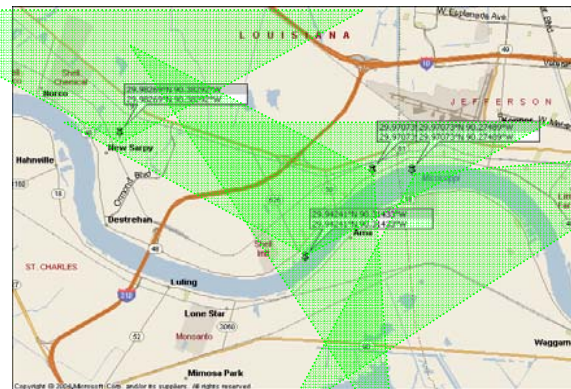
Service Provider	Percentage
Cell A	35
Cell B	28
Cell C	18
Misc. D	10
Cell E	8
Pager A	5
Pager B	3
Pager C	2
Pager D	1

timing synchronisation communication link

... best minds in the industry came together

WIRELESS EMERGENCY RESPONSE TEAM

Response to Hurricanes Katrina & Rita, & New Orleans Flood



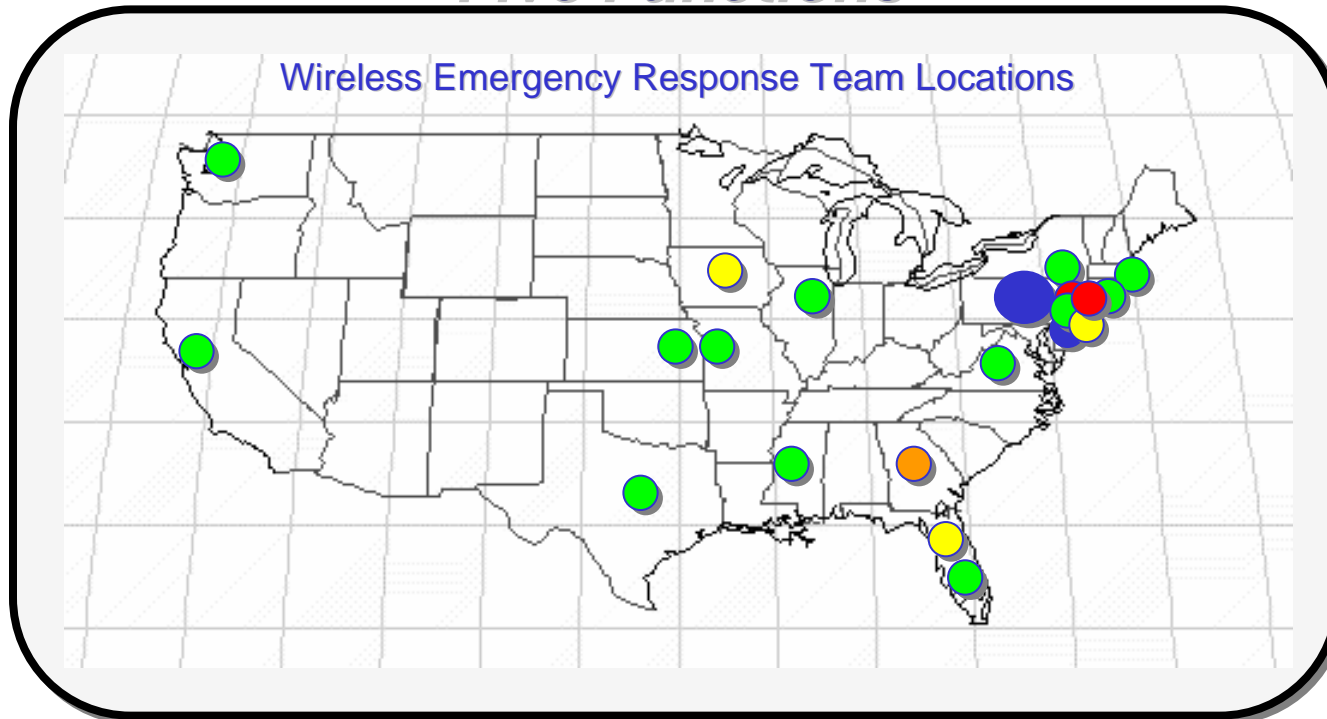
1. Wireless Network Simulation

2. 911 Call Failure Analysis

... 2 Primary Approaches

WIRELESS EMERGENCY RESPONSE TEAM

Five Functions



Coordination Command Center

Network Surveillance & Analysis

Public Call Center

Service Provider Intelligence

Ground Zero Locating

*... an ongoing
national emergency response capability*

WIRELESS EMERGENCY RESPONSE TEAM

Participating Organizations to Date Include:

AG Communications Systems		Union Cellular
Alltel	Metrocall	University of Texas
American Tower (SpectraSite)	Motorola	USCellular
Arch Wireless	DHS NCS	U.S. Coast Guard
Argonne National Laboratory	NCC	U.S. Congressman Ed Royce,
AT&T	NRIC	Office of
BatteryCorp	NYPD	U.S. Department of Defense
BellSouth	NYC Mayor's Office	NORTHCOM
CTIA	Nortel	U.S. Department of Energy
Cingular Wireless (AT&T Wireless)	PCIA	U.S. Department of
Dobson Cellular	Pennsylvania State Police	Homeland Security
EDO Corporation	Qualcomm	U.S. Marshals Service, ESU
Ericsson	Qwest Wireless	U.S. Secret Service
FBI	SkyTel	UTStarcom
FCC	Sprint Nextel	Verizon
FEMA	State of New Jersey	Verizon Wireless
IEEE COMSOC	Telcordia Technologies	WesTower
Intelsat	T-Mobile	Wheat International
Louisiana Public Service Commission	Triton PCS	White House Office of
Louisiana State Police	TruePosition	Science and Technology
Lucent Technologies Bell Labs		

WIRELESS EMERGENCY RESPONSE TEAM

Mission

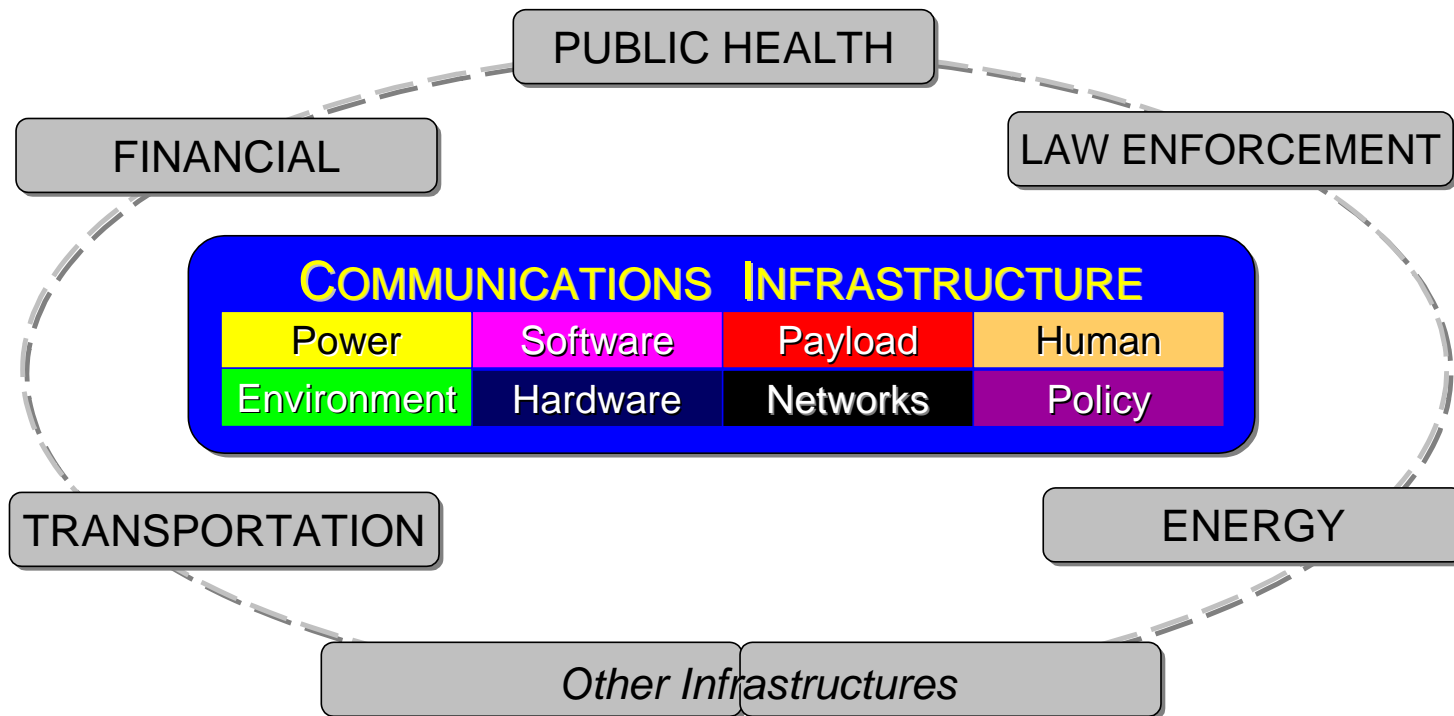
1. Lead advanced wireless expertise, technology and infrastructure support for **Search & Rescue** operations in national crises
2. Conduct focused **research and report** key learnings to industry, government and the public
3. Provide **emergency guidance** for 911 centers, law enforcement, wireless service providers and family members

From time to time, WERT may also use its unique wireless capabilities and expertise to address other critical needs of society.

Being good stewards of our capabilities

WIRELESS EMERGENCY RESPONSE TEAM

8 Ingredient Framework*

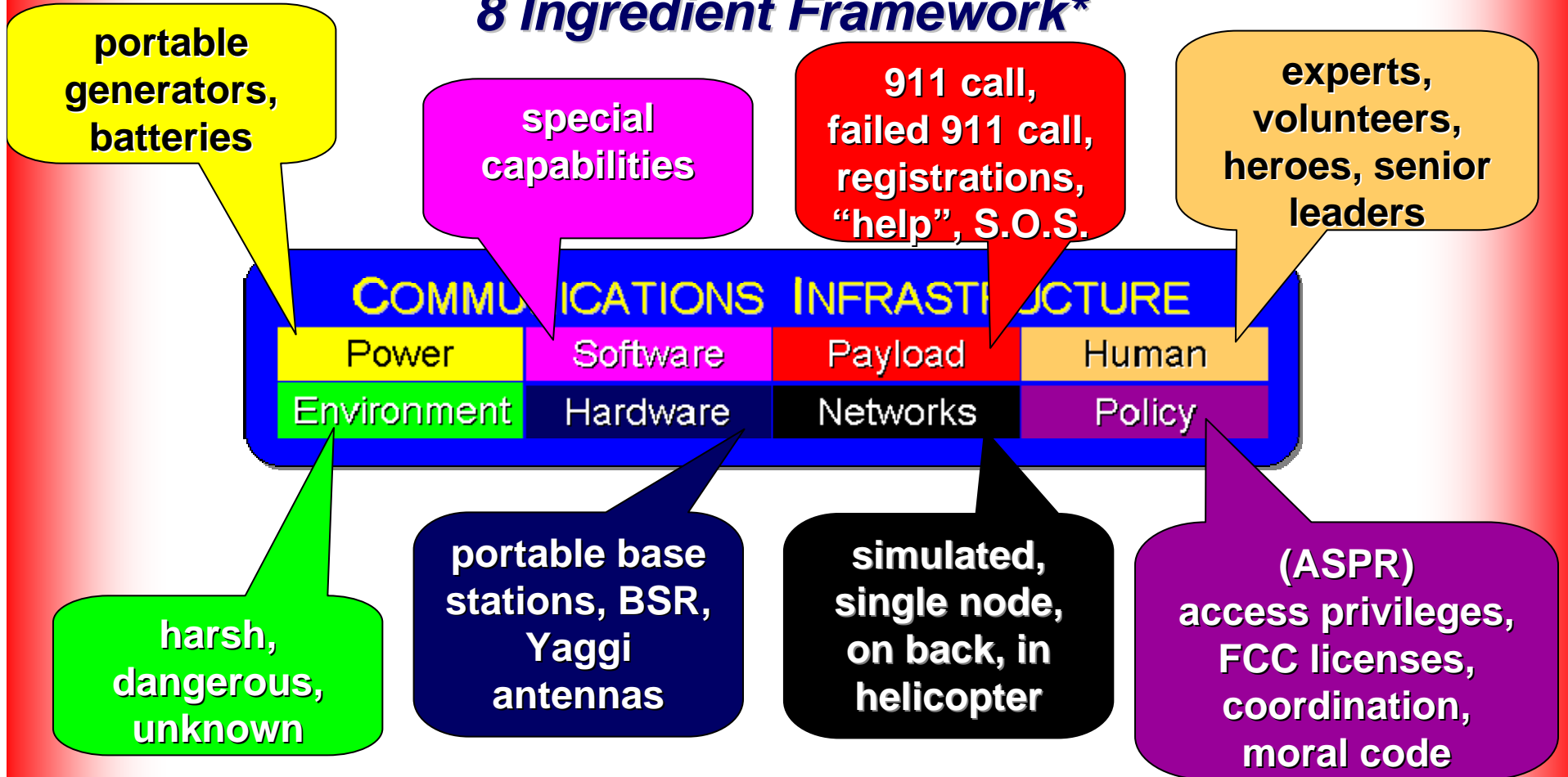


*Proceedings of IEEE CQR 2001 International Workshop., May, 2001; Federal Communications Commission (FCC) Network Reliability and Interoperability Council (NRIC) VI Homeland Security Physical Security Focus Group Final Report, Issue 3, December 2003; Rauscher, Karl. F., Protecting Communications Infrastructure, Bell Labs Technical Journal Homeland Security Special Issue, Volume 9, Number 2, 2004., The President's NSTACNGN Tf Final Report, March, 2006.

building blocks of a network

WIRELESS EMERGENCY RESPONSE TEAM

8 Ingredient Framework*

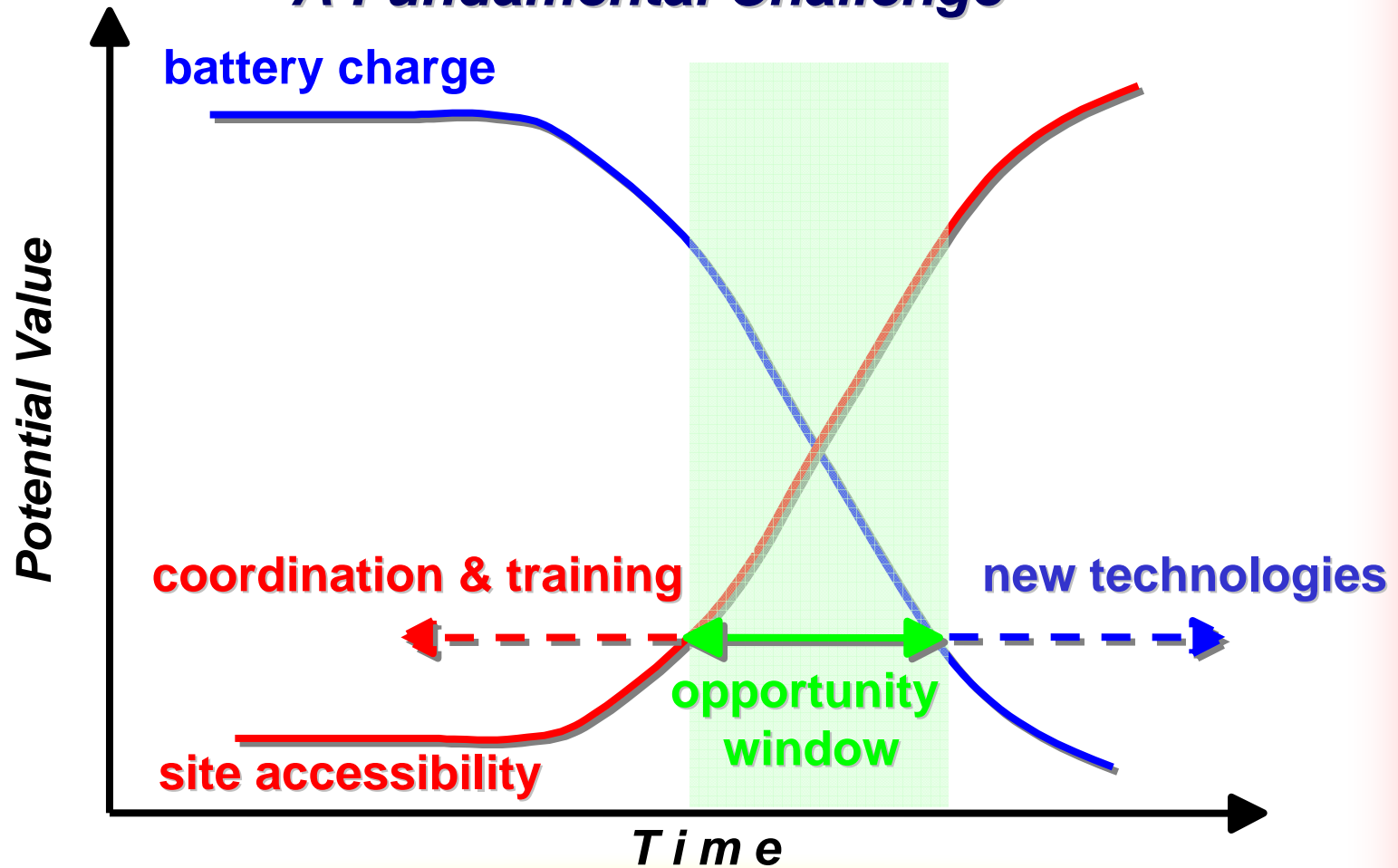


Rauscher, K; Runyon, J; Krock, R; 2006 Bell Labs Technical Journal *Reliability Issue*, Volume 11, No. 3

our recipe

WIRELESS EMERGENCY RESPONSE TEAM

A Fundamental Challenge



... increasing the window of opportunity

WIRELESS EMERGENCY RESPONSE TEAM

Vision

**Connect the *best minds and resources*
of the wireless industry
to the *most vital needs* of its subscribers.**

... using wireless technology to save lives

WIRELESS EMERGENCY RESPONSE TEAM

Responsibility

***“And to every one to whom much has been given,
much shall be required”***

Luke 12:48

... how can we not do all we can to save lives?