



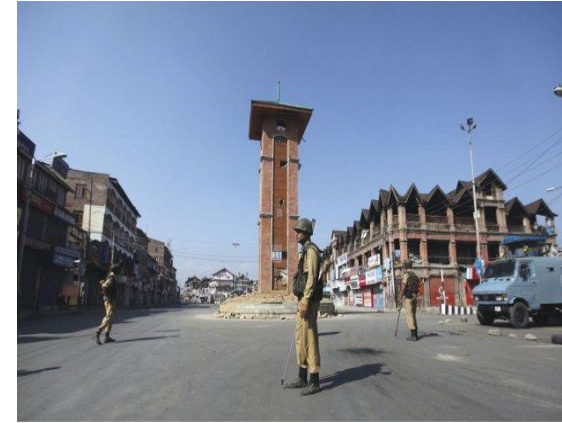
# Geo Intelligence Asia 2012

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**Collaborative Approach  
To Common  
Geo Infrastructure**

**Brig (R) A S Nagra**

**SEEMLESS  
COLLABORATION**





# **INTRODUCTION**



# Three Block war

Full Scale  
Military Actions

Peace  
Keeping  
Operations

Humanitarian  
Aid



**Military Forces**

**Non Government  
Organizations**

**Governmental  
Institutions**

**Industry**

**Collaboration & Sharing**



# STRATEGIC VISION

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- **One information infrastructure centrally managed**
- **Capable of handling secure data transmissions and exchange**
- **Collaboration with military and non-military partners under all circumstances (secure)**



# **PROBLEMS TO BE ADDRESSED**

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- **Interoperability**
- **Availability**
- **Sensor data analysis and storage**
- **Affordability**
- **Information security issues**



# Importance of Network Centric Warfare

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- **New way of handling military situations in the future**
- **closely relates to the term systems-of-systems**
- **NCW is more based on the modus operandi**
- **Systems-of-systems is more based on the systems needed to achieve NCW.**





## **BENEFITS OF NCW**

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- **Improves a force`s ability to quickly, efficiently and effectively bring to bear all of its available assets to accomplish assigned missions**
- **Allows forces to adapt more quickly to a dynamic environment**
- **Precision engagement and focused logistics**



# REQUIREMENTS OF NCW

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- **High degree of integration across a number of dimensions**
- **Ability to move *information* instead of people and material**



# **GEOSPATIAL IN SUPPORT OF NCW**

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- **Geospatial enterprise services support the transformation to network-centric warfare.**
- **Web-enabling of global cyberspace leveraging existing and emerging technologies.**
- **Ensures user-centric information-sharing, information-fusion , sense-making, and decision-making**
- **Provides a common language to move beyond traditional closed communities of interest**



## **GOALS - NCW**

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- **Establish an integrated, collaborative analysis and production environment that is responsive to and predictive of continuing and emerging global threats.**
- **Institute and expand an interoperable, strategically aligned National System for Geospatial intelligence.**
- **Attract, develop, sustain and engage a workforce with the skills and competencies required to meet current and future threats and challenges**



# **BENEFITS OF FUSED GEOINT CAPABILITY**

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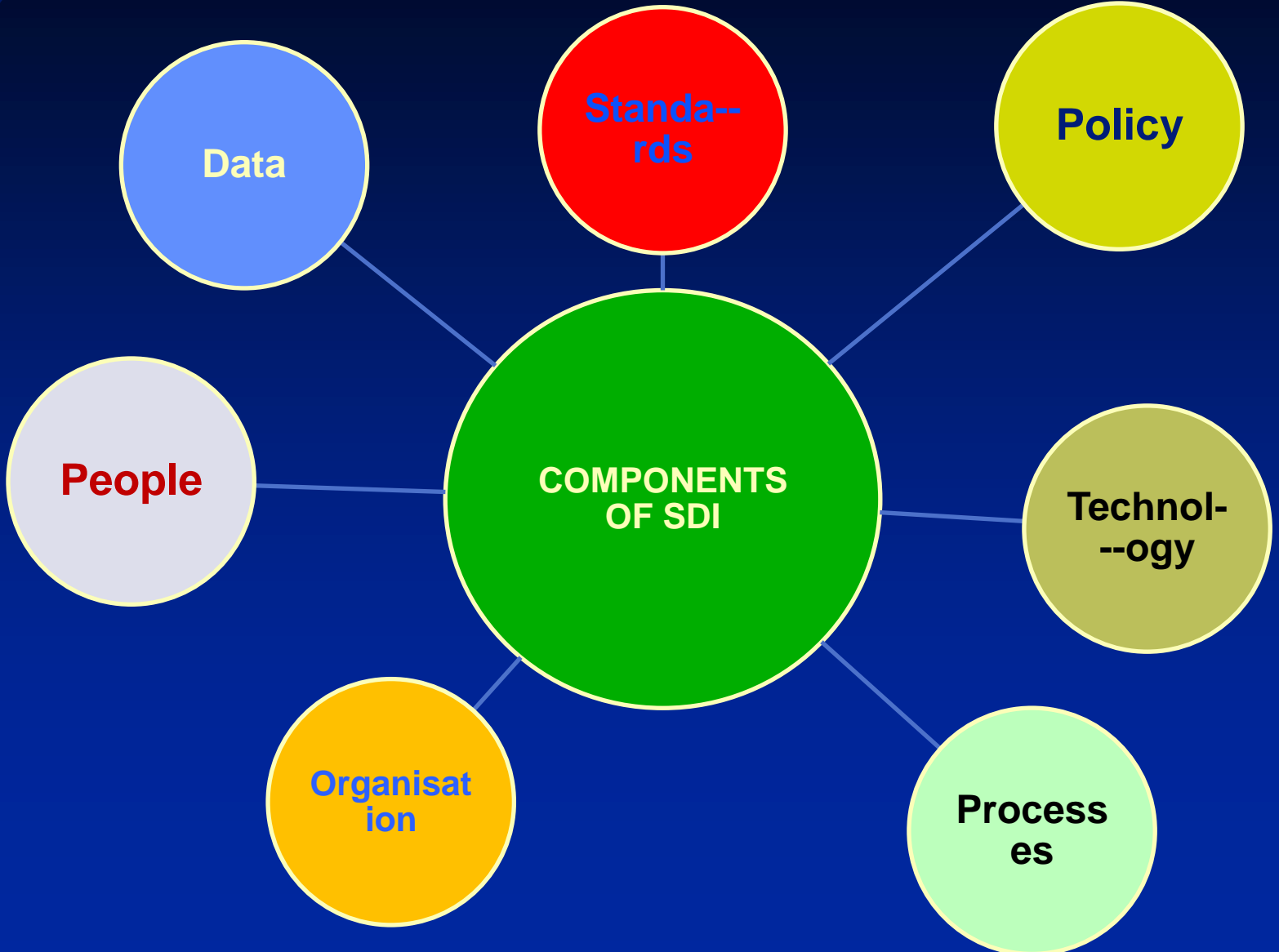
- **Enhanced Visibility and Awareness**
- **Easy Accessibility**
- **Easy Understand ability**
- **Seemless Interoperability**
- **Better Jointness**



# SPATIAL DATA INFRASTRUCTURE

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`Create an **environment** in which all involved stakeholders can collaborate with each other and **interact** with the use of technology, to better **achieve their objectives**`





# IMPEDIMENTS IN COLLABORATIVE ENGAGEMENTS

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- **User-unfriendly interfaces**
- **Discipline-specific nature of metadata and clearinghouses**
- **Discovery of spatial data facilitated through metadata catalogues and portals**
- **Metadata process often overlooked because it requires time and recourses**
- **Non-technical interoperability identified as more problematic**
- **Trust identified as the most mutual feature of sharing organisations**





# IMPEDIMENTS IN COLLABORATIVE ENGAGEMENTS

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- **Access links weakened due to the existing technological and/or non-technological barriers**
- **No sharing mechanism in place with any other node(s)**
- **Stakeholders actively participate if certain benefits or advantages to win for their organisations**
- **Non involvement of stakeholders in developing supportive policy.**



# Major Challenges within the Defence Forces

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- **Interoperability with Systems deployed under different Programs / Projects developed on different 'platforms' on different dates**
- **Integrated Communications(the 4<sup>th</sup> C in C4ISR context) yet to be in place**
- **Naval Communications totally different from Army and Air Force – major challenge in Joint Ops**
- **Hydrographic Data for ENCs on a different platform- pose major challenges for seamless integration with land base data**
- **DSDI being talked about ,possibly long way off**




# **Homeland Security Challenges**

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- **Different Central Agencies with different systems**
- **State Intelligence/ Police Forces with different systems (digital/analogue)**
- **Integrated Defense and Homeland Security mandated but not implemented/ tested**
- **Major 'non technical' challenges to Interoperability**
- **NSDI yet to be operational**
- **Interoperation between DSDI and NSDI ?**



**CONCLUSION**



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**“We could all go to the same software  
and hardware at all echelons and  
*still not*  
be able to see each other or message  
Each other!”**

**Same requirements...but very different  
implementations...**