

COMMAND AND CONTROL

## GeoC2

## Transformando dados em Conhecimento Azul





## **Inovaworks Command and Control?**

- Command and Control-related ITC solutions
  - Spun-off out of Inovaworks R&D in July 2011
  - Parent Company worked in SSN, works in THETIS
- Highly-skilled on GIS and Operations Modeling for C4ISR operational scenarios –mostly civilian
- Industry partner for Portuguese BlueMassMed
- Industry partner for Portuguese NIPIM@R
- Industry partner in the 2014 CISE Incubator wrks
   Implemented the gateway->national node integrations



## **BlueMassMed Demonstration Session**



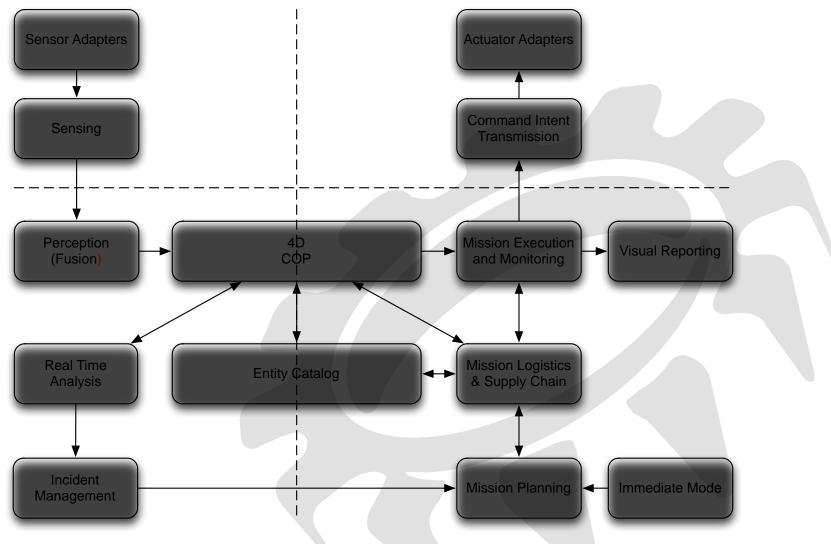


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## Our software offering



inovaw (rks GeoC2

## **Innovative HMI Technologies**



inovaw Crks GeoC2

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## Cada vez mais sensores a olhar o mar



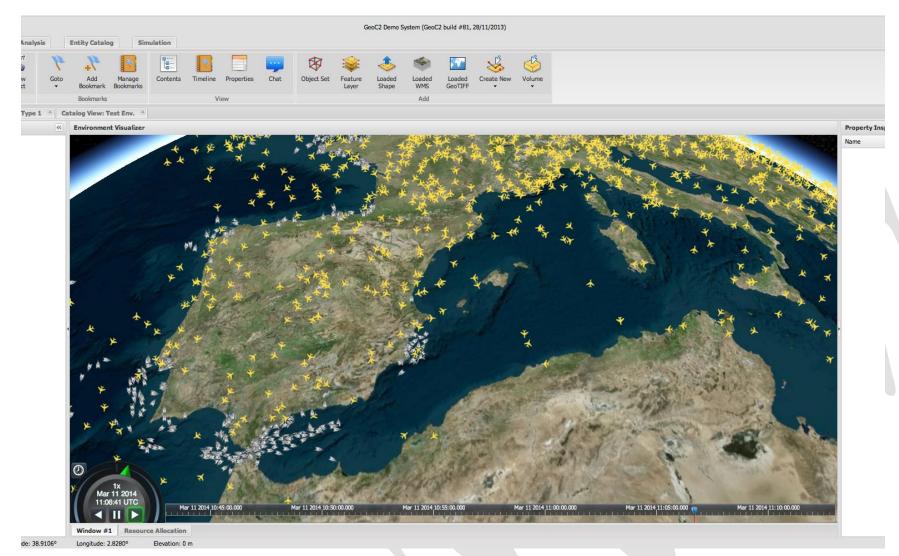


## Muitos Dados, Pouco Conhecimento





## Muitos Dados, Pouco Conhecimento





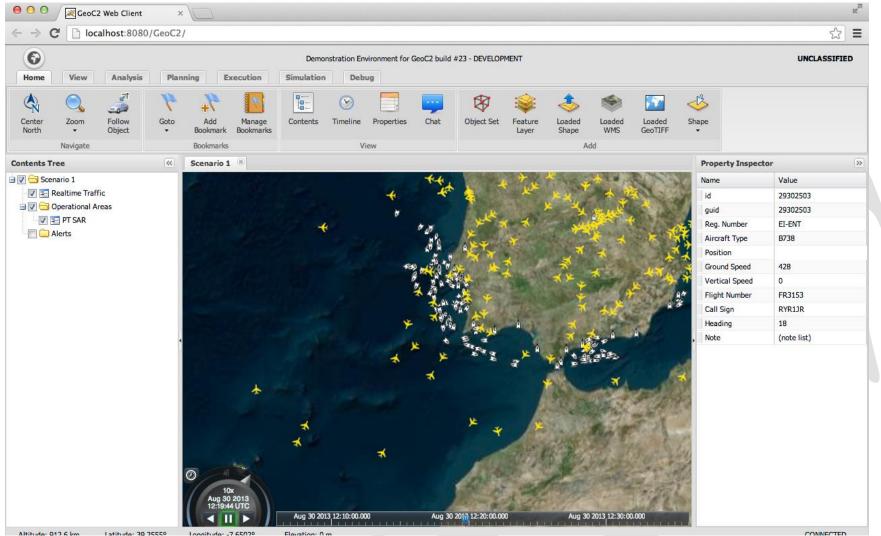
## "O Mapa não é o Território"

Alfred Korzybski, 1931



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## 4D, time-scrubbing, situational awareness

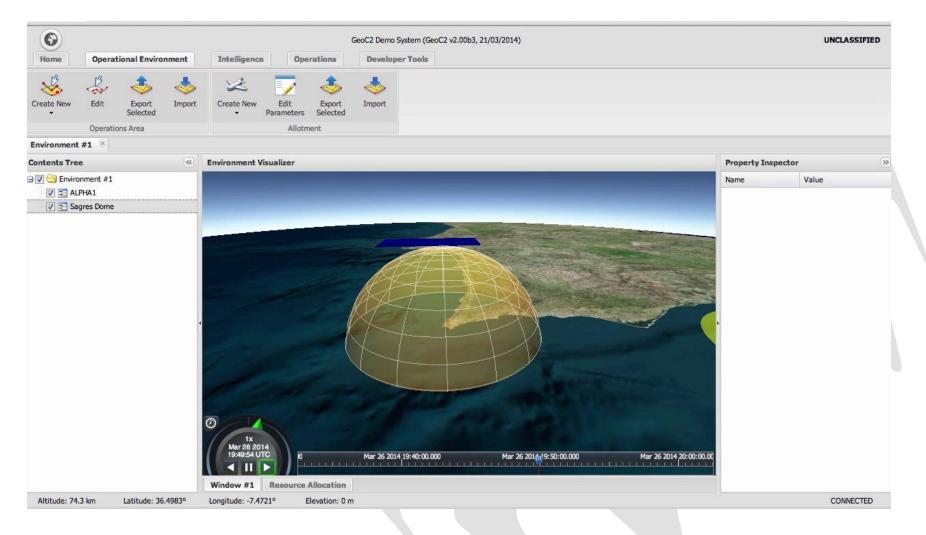


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## **Volumetric Monitoring and Fencing**



## inovaw Crks GeoC2

## De um Mapa pobre para um Mapa Rico?



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#### "Not everything that can be counted counts, and not everything that counts can be counted."

William Bruce Cameron



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## Que eventos? O que é importante?

- Coisas que conhecemos e procuramos
  - Atrasos e Desvios
  - Rotas de Colisão
  - Mudanças abruptas de comportamento
  - Transgressões de zonas restritas

...portanto, definidas formalmente à priori...

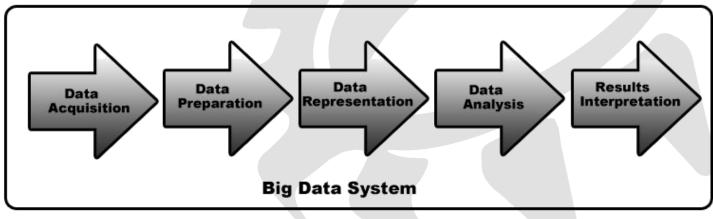
 Coisas que desconhecemos, mas que podem ser interessantes, apesar de não ser claro como



Slide 15

## Massive real-time data analisys







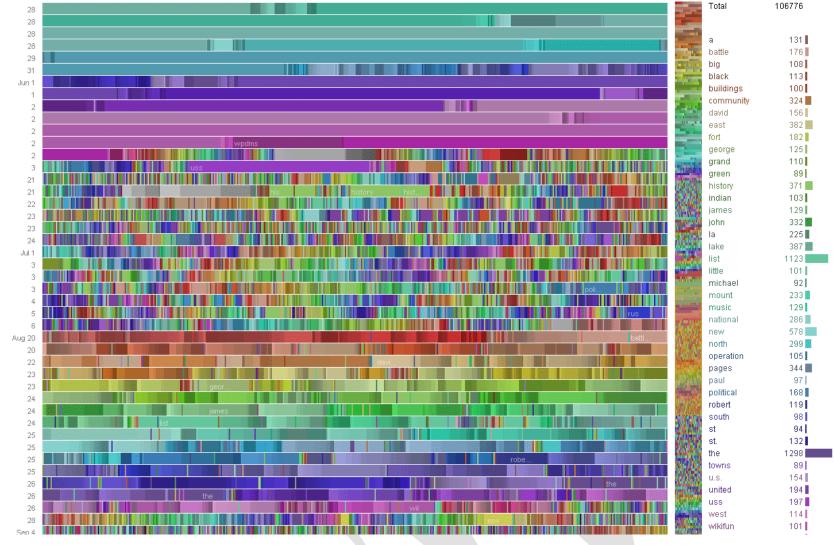
## Big Data – a Loura de Vestido Vermelho?

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## Um exemplo menos esotérico



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COMMAND AND CONTROL

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#### "You can't manage what you can't measure"

#### William Thomson, Lord Kelvin



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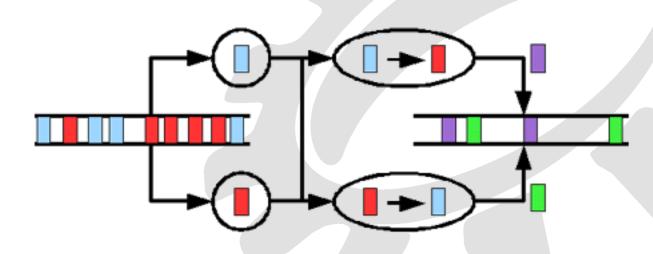
#### ...or can you?



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## Processamento de Eventos Complexos

 A análise, em tempo real, de um fluxo de contínuo de dados em busca de formas de correlação de padrões complexos, gerando do mesmo novos eventos e significados relevantes



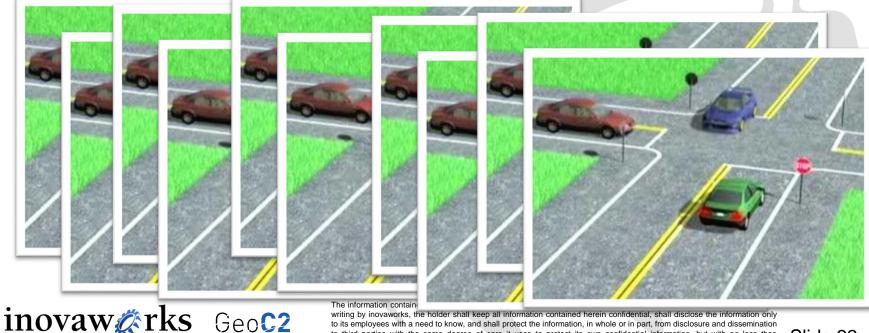


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## Raciocínio baseado em Casos

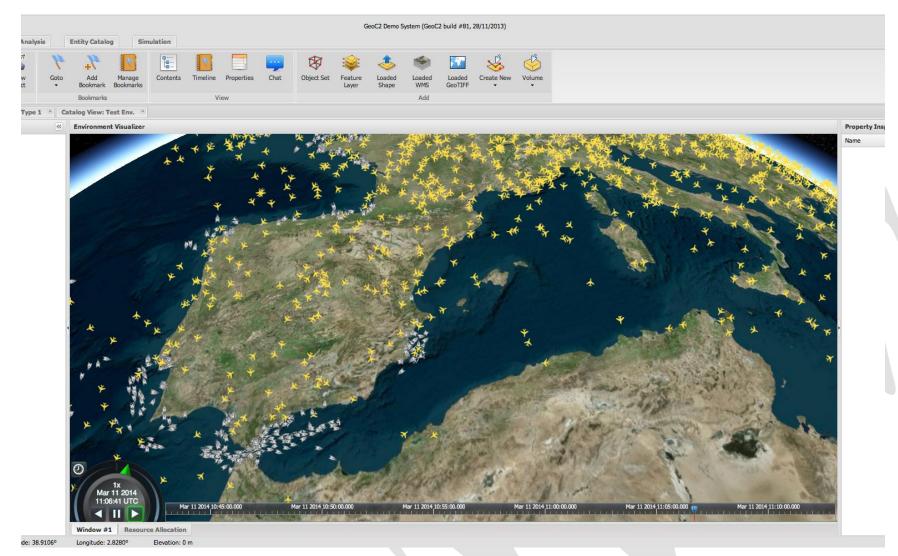
COMMAND AND CONTROL

 Análise do comportamento passado de um sistema, sem conhecimento à priori das regras implicitas do mesmo, de forma a responder a novos casos que lhe são apresentados



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## Transformar dados, muitos dados...





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## ...apenas no que é relevante.





Slide 24

## Um Mapa (mais) Rico => Conhecimento de (maior) Valor



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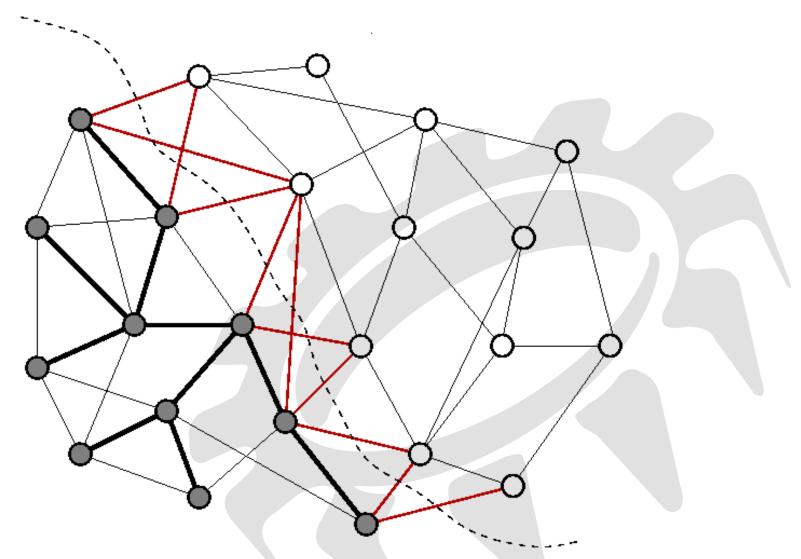
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#### CONNECTED



## **Adaptive Execution and Corrective Plans**

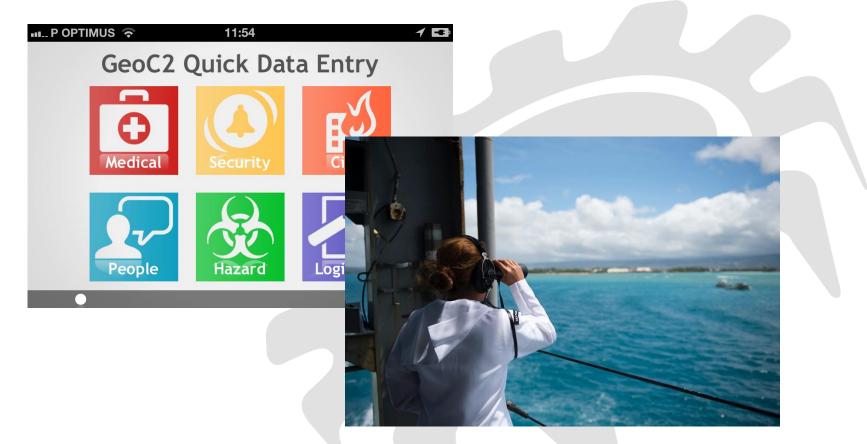




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## In-situ sensing and actuation platforms

 Inovaworks also developed an in-situ platform for automated dispatch and event capture and cataloguing





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## Um Mapa (mais) Rico => Conhecimento de (maior) Valor

#### Partilhável. Vivo. Interactivo.



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# GeoC2 Thank You!

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