LUCIAD PRESENTATION

ACCELERATING INSIGHT THROUGH GEOSPATIAL VISUAL ANALYTICS

FRANK SUYKENS - CTO
LUCIAD

We build **software components** that allow third parties to create **geospatial situational awareness applications**
Visual analytics is the science of ANALYTICAL REASONING facilitated by interactive visual interfaces.
40% of all nerve fibers connected to the brain are linked to the retina. More of our neurons are dedicated to vision than the other four senses combined.
BIG DATA SHIFT
From hypothesis-driven to *data-driven analysis*

**BEFORE**
KNOWN UNKNOWNS
AUTOMATED ANALYSIS
(machine learning, statistics, etc.)
REPLACE THE HUMAN

**NOW**
UNKNOWN UNKNOWNS
VISUAL DATA ANALYSIS
AUGMENT THE HUMAN
VISUAL ANALYTICS

CHALLENGES

VISUALIZATION

INTERACTION

DATA
VISUAL ANALYTICS CHALLENGES

DATA

→ Heterogeneity of data
→ Data size
→ Data streams
→ Working under pressure, in real time
VISUAL ANALYTICS CHALLENGES

VISUALIZATION & INTERACTION

→ Trigger fast visual perception
  • Filter, style, aggregate
  • Different views
  • Interactive performance
  • Usability
Use case: people tracking (VAST 2015)
Use case: visual image analysis
OTHER USE CASES

Hurricane impact on 100 million insurance customers

Exploration of events over 20 years for a whole continent
Use case: traffic analysis (3d.luciad.com)
LUCIAD APPROACH

→ Components
  ▪ Easily build dedicated analysis apps
  ▪ Reuse across architecture
    • Client visualization
    • Web services
    • Hadoop Map/Reduce
    • ...

→ Performance
  ▪ Interactive visualization and analysis of millions of objects
  ▪ No preprocessing
  ▪ GPU & CPU

→ User experience
  ▪ Allow dedicated HMI vs. Complex, generic analysis applications
One algorithm can do the work of 50 ordinary users.

No algorithm can do the work of ONE extraordinary analyst.

-inspired by Elbert Hubbard
Visit us at Stand 33