



Platform for Automated Data Analysis

Alexander Lais – Solenix Deutschland GmbH

ESAW 2015 – 16th - 17th June 2015

Agenda for this Talk

- Introduction
- The Problem – Information Overload
- Our Platform for Automated Data Analysis
- Example Case – ESA
- Conclusion



Introduction

Introduction



Developer of the Product
Project and Consortium Lead



Project Partner
User Interface and Geospatial Visualisation Experts

Advisory Board of 7 industry partners from
**Aviation, Logistics, Financial Consulting,
Spacecraft Operations and Medicine**



Part of this project (HA project no. 418/14-08) is funded in the framework of Hessen Modellprojekte, financed with funds of LOEWE – Landes-Offensive zur Entwicklung Wissenschaftlich-ökonomischer Exzellenz, Förderlinie 3: KMU-Verbundvorhaben (State Offensive for the Development of Scientific and Economic Excellence).

Platform for Automated Data Analysis



Efficient Data Storage



Data Exchange APIs



**Intelligent Dashboard
and Analytics**



Reporting

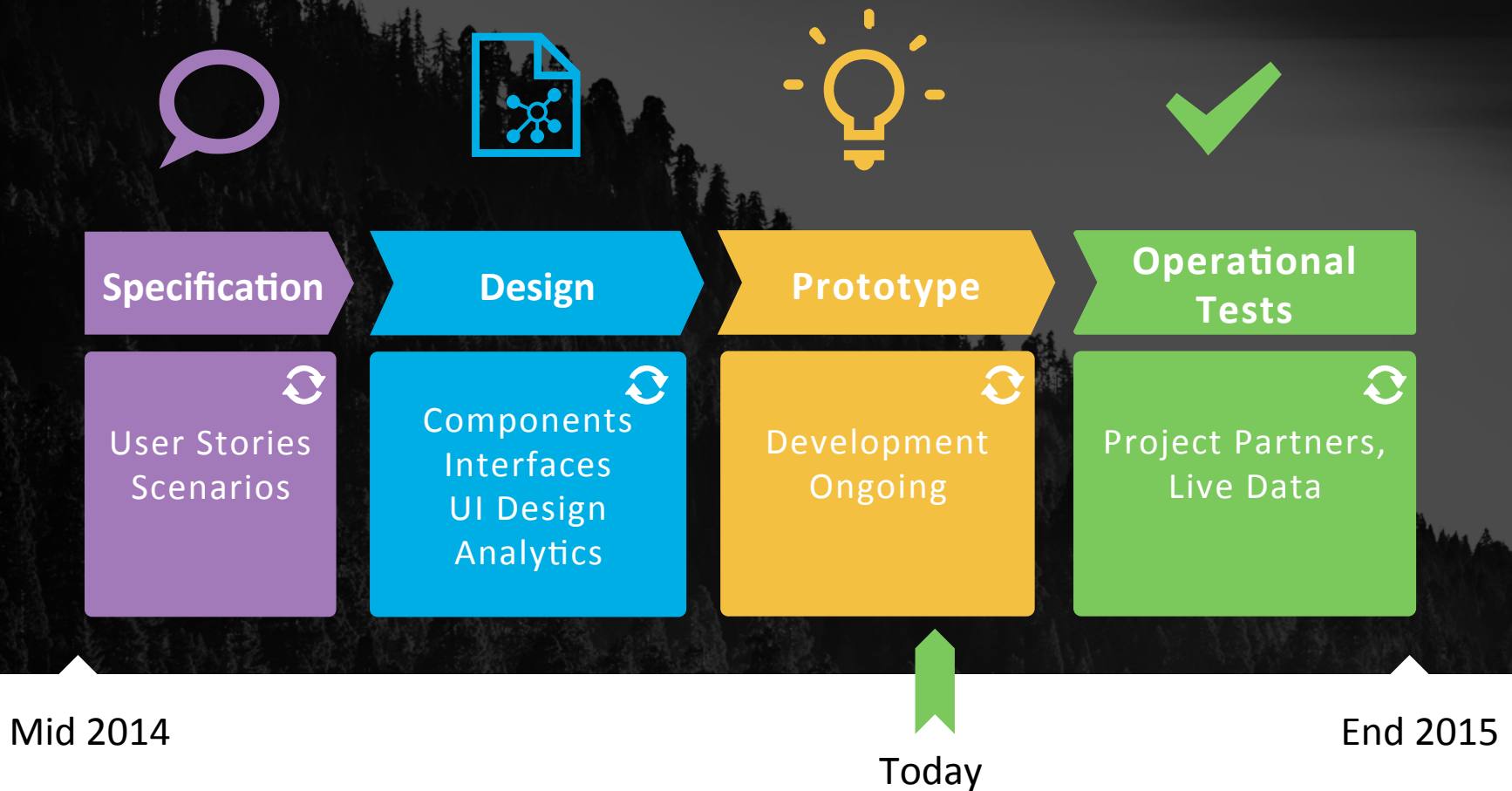


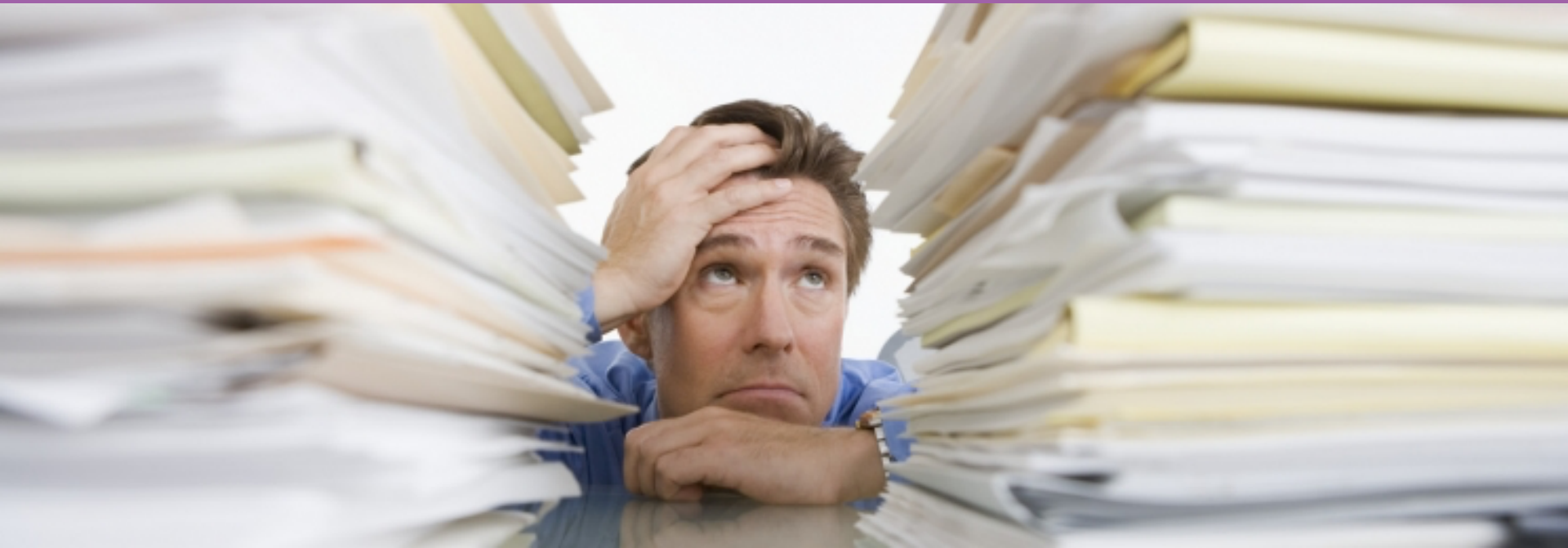
**Graphical Analysis
Tools**



Electronic Logbooks

Project Timeline and Status





The Problem – Information Overload

Information Overload

More and more
data every day

Which configuration
is currently active?

When did
something like this
happen last?

Too much or too
little information for
decisions

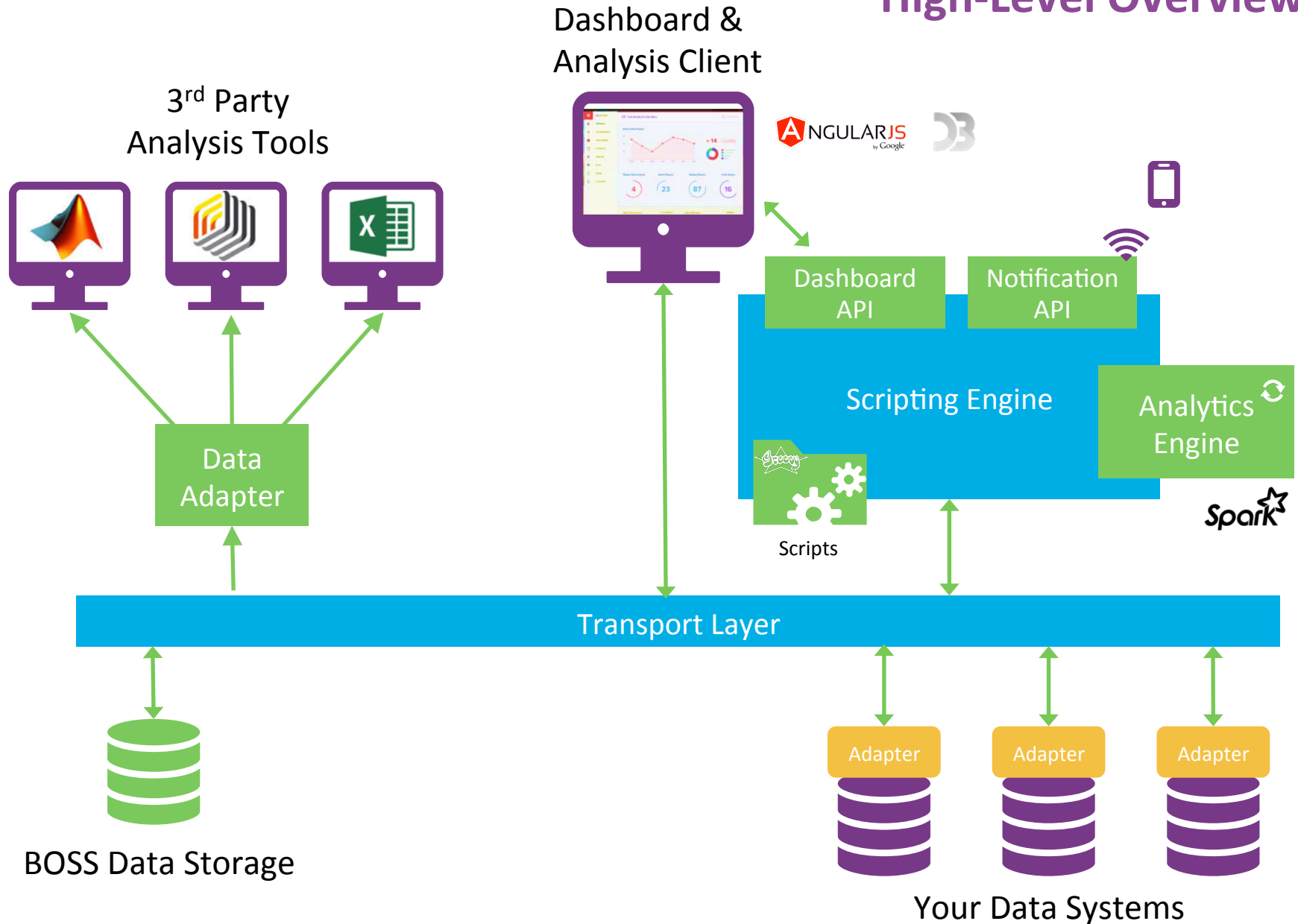
My boss wants to
know immediately if
the system is OK

The constant stream
of data can mask
important events



Our Platform for Automated Data Analysis

High-Level Overview

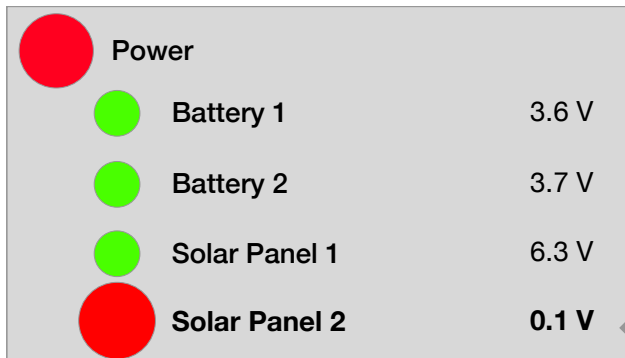
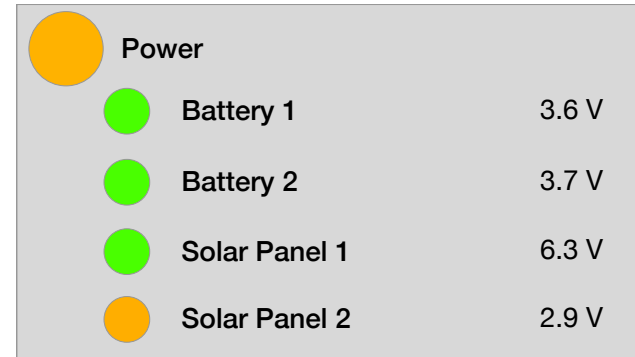


Adaptive Dashboard Widget Example

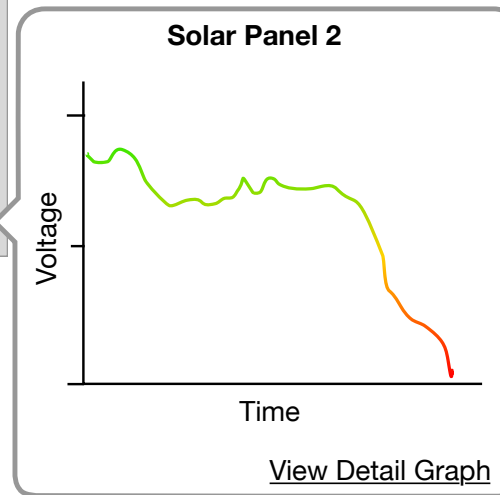
Nominal State



Warning State – Widget expands

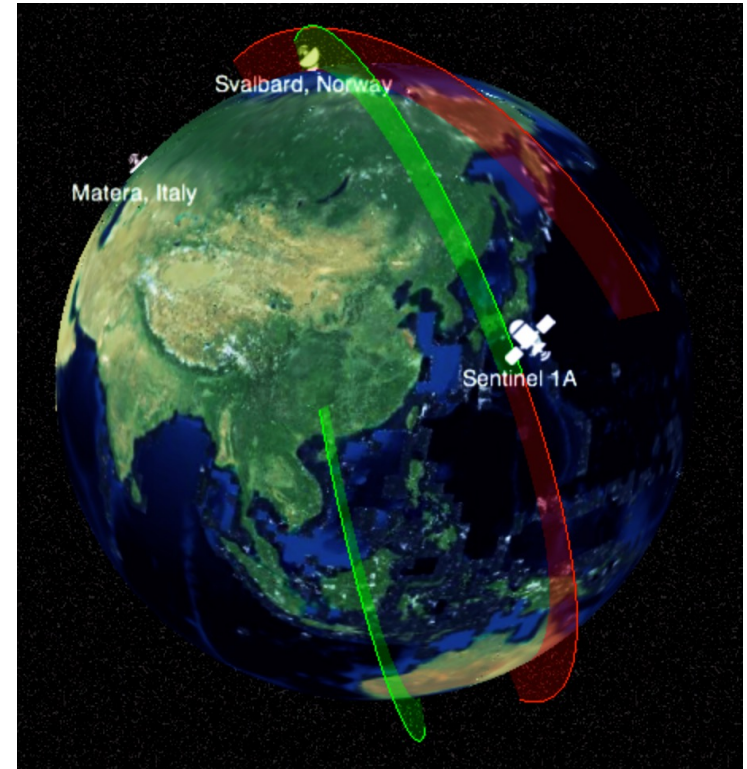


Alarm State, with active Data plot preview



Other Widgets

- 3D globe integration (e.g. orbital positions)
- Sequence Diagrams for Events
- Mimics with Data Binding
- Data Flow Indicators
- Other specific widgets for our industrial partners on demand





Use Case Example – ESA / ESOC



(Photo: ESA)

Status Quo

- Different Systems for Operations
 - Manual cross-checks
 - Different interfaces
- Context-Dependent behaviour
 - Configuration
 - Orbital Position (e.g. eclipse, polar)

Opportunities for our Platform

- Intuitive Dashboard
 - Show data in a single place
 - Adaptive to highlight current issues
- Anomaly Investigation, with automation
 - Outlier detection
 - Pattern matching
- Data Exploration
 - Correlations
 - Root cause analysis



(Photo: ESA)



Conclusion

What Makes this Solution Special?



Powerful Analytics



Integration of Data and Tools



Intuitive and Adaptive



Complementary



Context Aware



Scalability



High Level Overview



Useful in Many Domains

Thank You

ENGINEERING INSPIRATION

Solenix Deutschland GmbH
Spreestr. 3
64295 Darmstadt



info@solenix.ch



www.solenix.ch

