



## The eIMS framework

Open Workshop, Brussel 17/04/2018

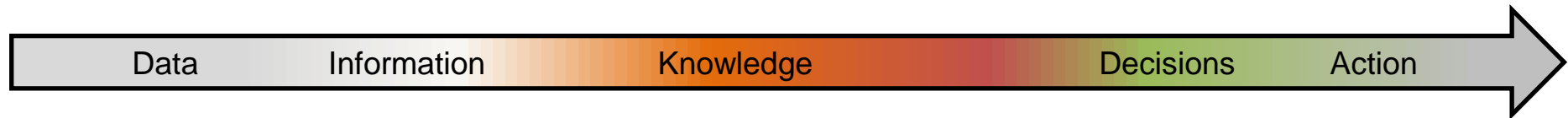
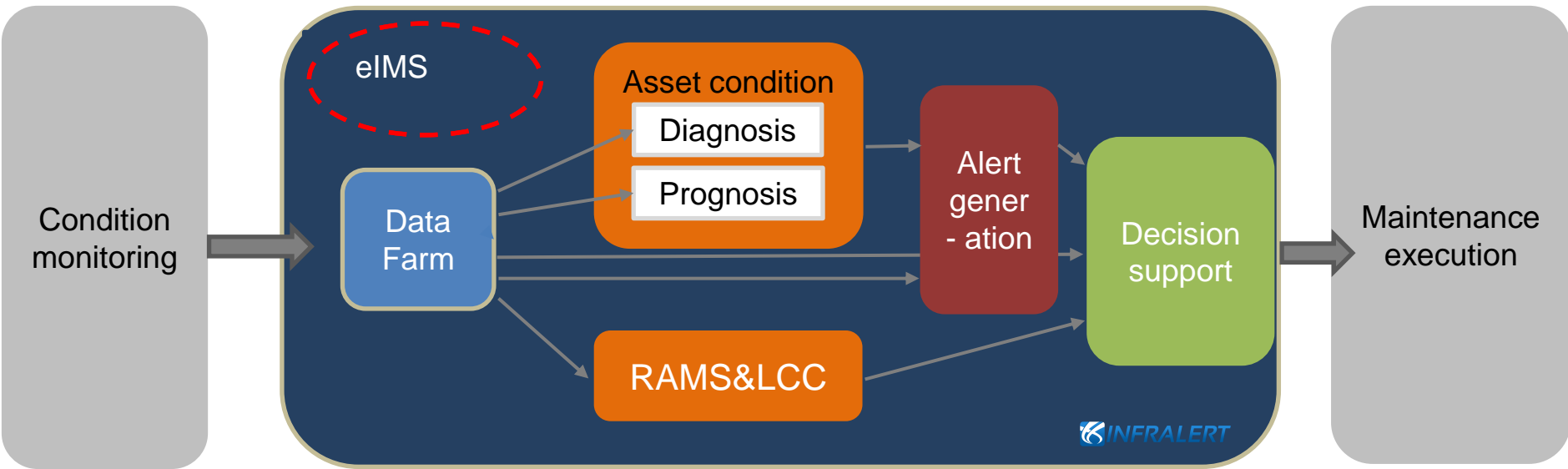
András Juszt



- General overview
- eIMS platform
  - framework
  - software architecture
- Interoperability
  - file based mode
  - REST API
- The presentation layer (GUI) – **live DEMO**
  - authentication, authorization
  - network, campaign management
  - toolkit visualisation



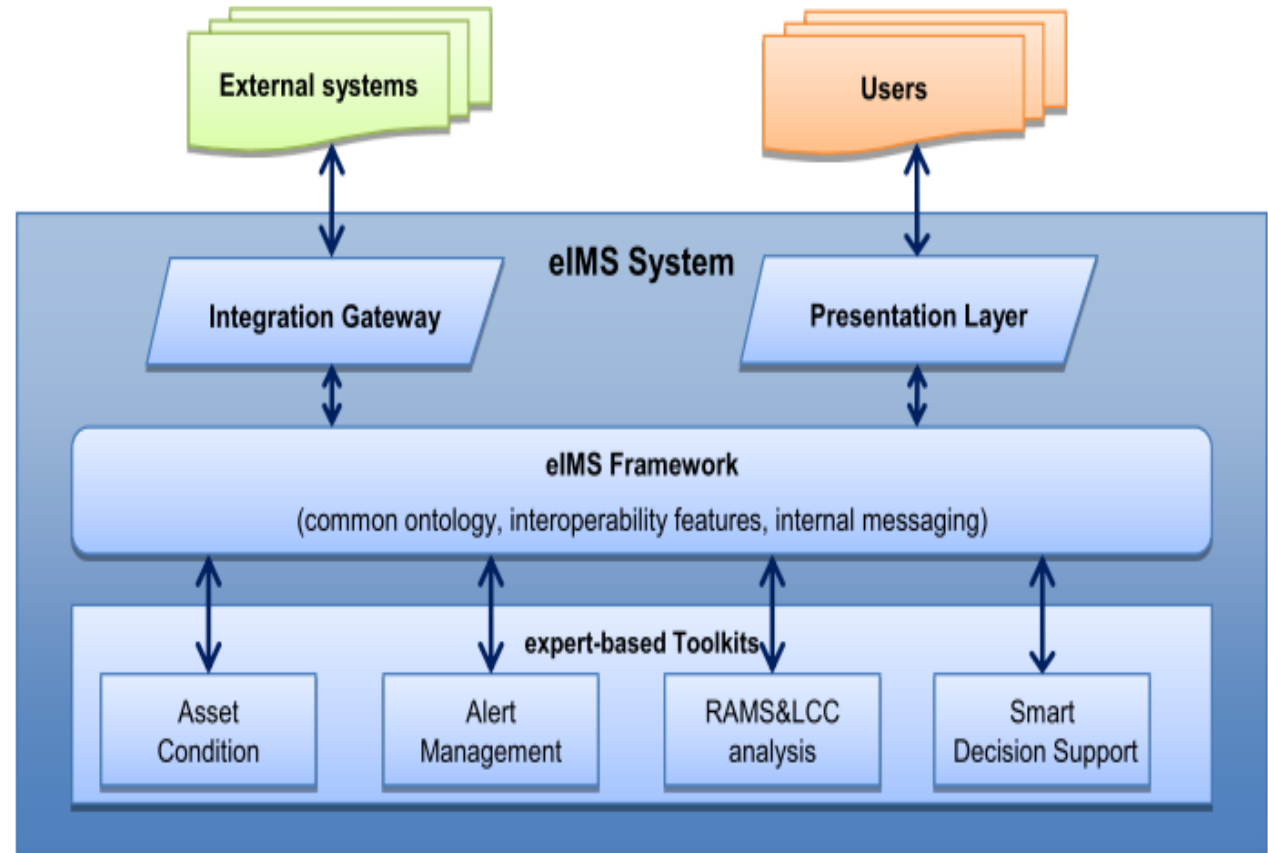
# General Overview



- General overview
- eIMS platform
  - framework
  - software architecture
- Interoperability
  - file based mode
  - REST API
- The presentation layer (GUI) – **live DEMO**
  - authentication, authorization
  - network, campaign management
  - toolkit visualisation



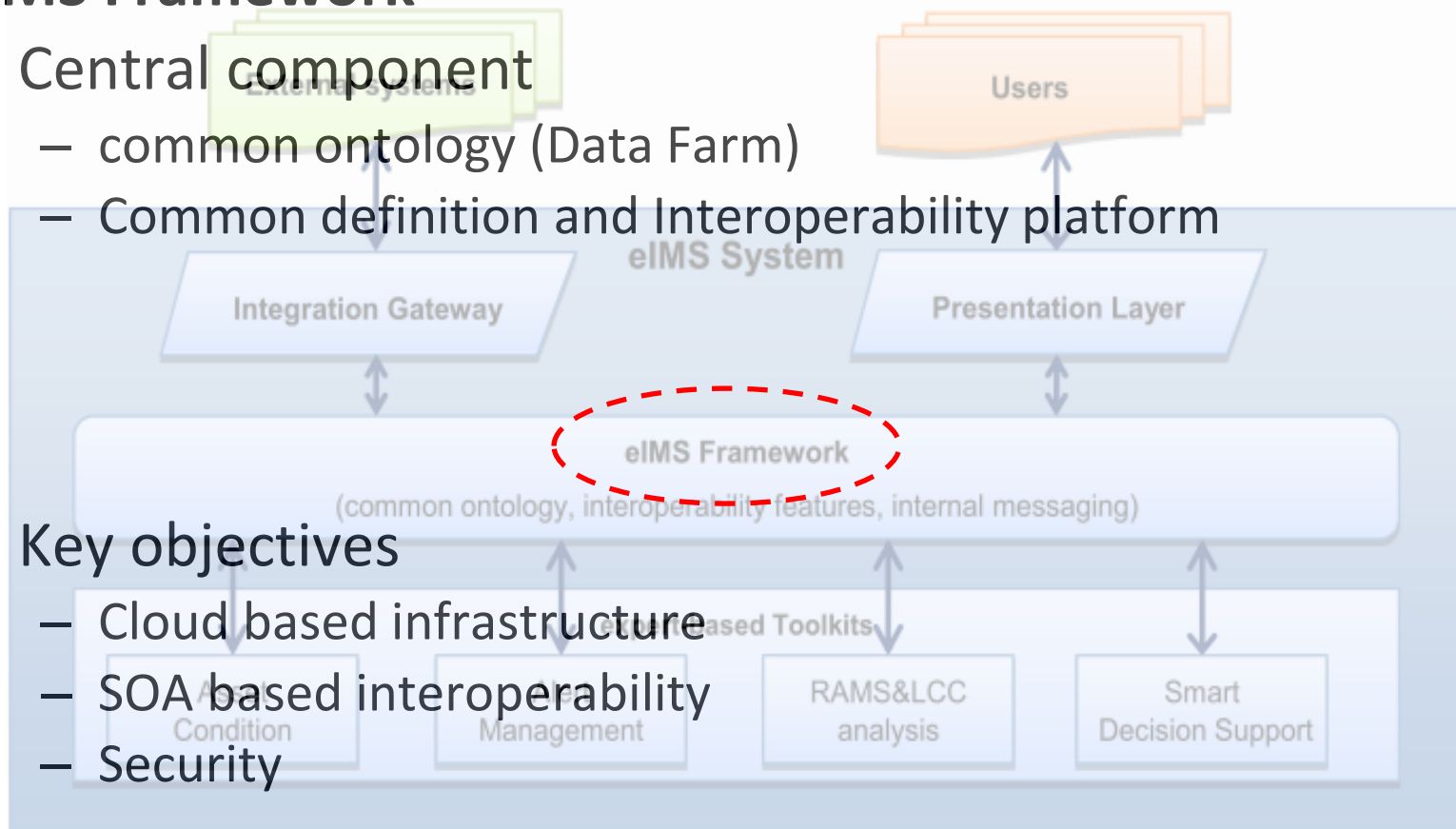
- Expert-based
- Integrated platform
- Cloud-based
- Service Oriented Architecture
- Common ontology
- Single Page Application



## eIMS Framework

- Central component

- common ontology (Data Farm)
- Common definition and Interoperability platform

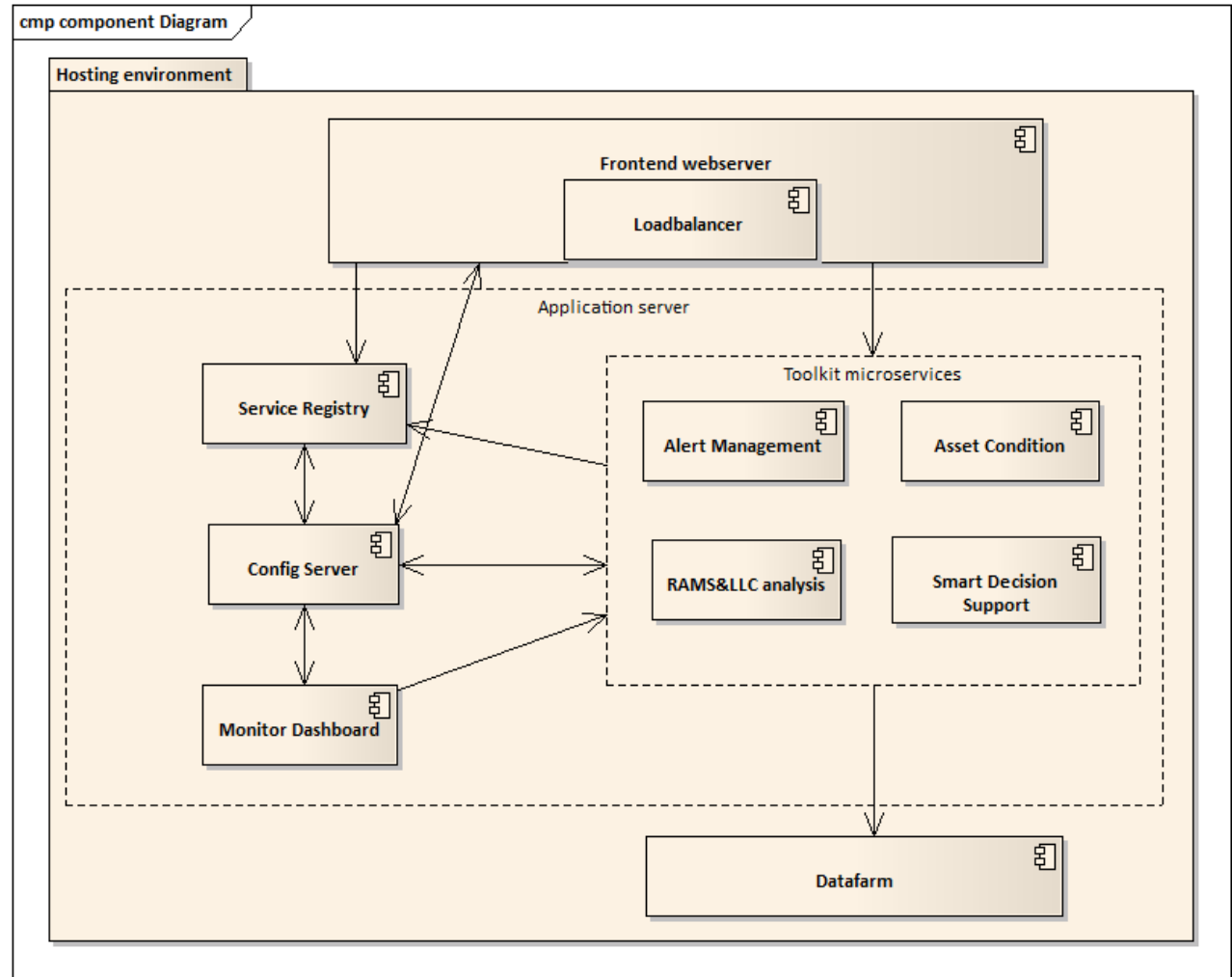


- Key objectives

- Cloud based infrastructure
- SOA based interoperability
- Security

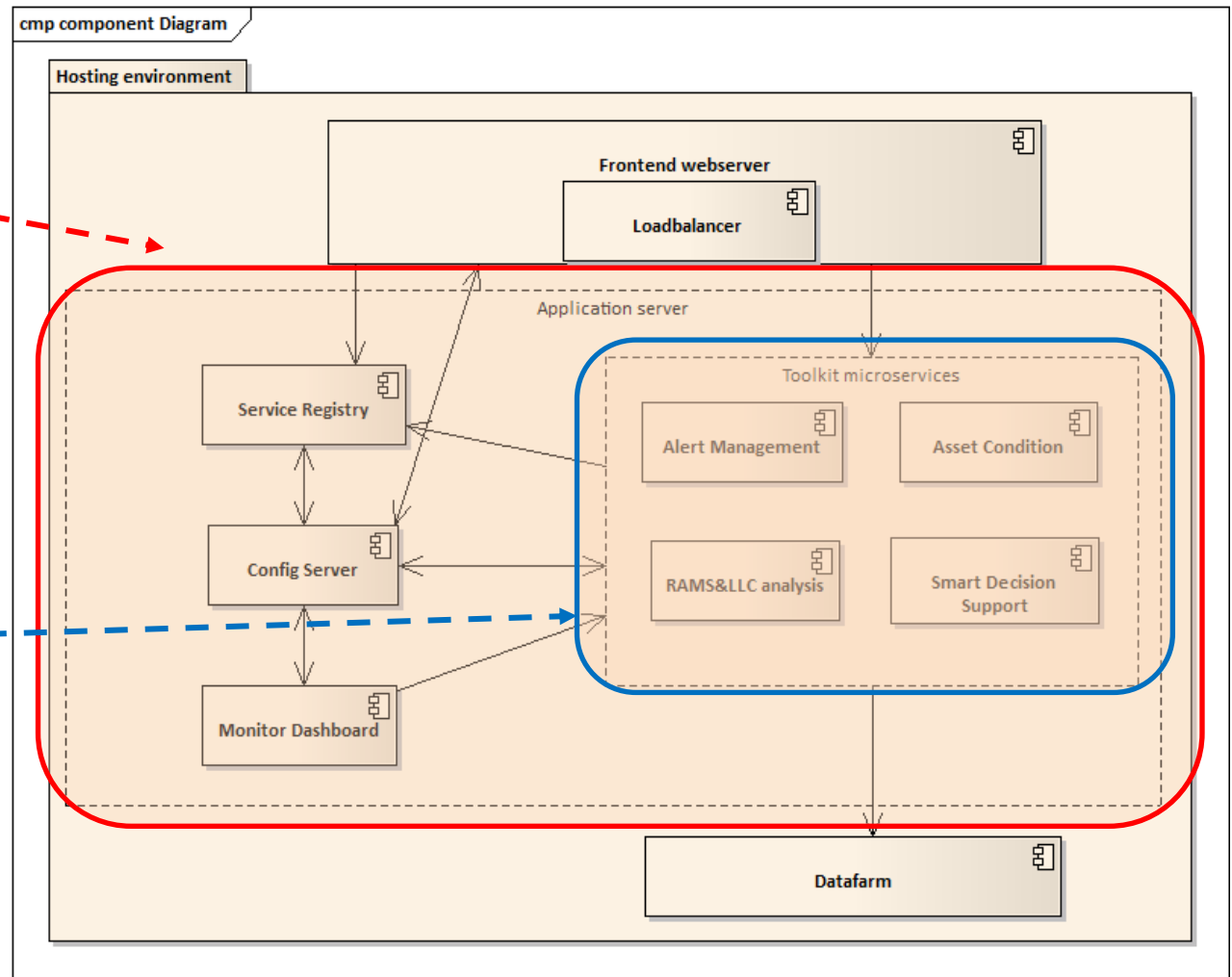


- Multi tier environment
- Presentation layer
- Business logic layer
- Storage layer



Modular-based  
easily scalable  
microservices  
in the middle ware

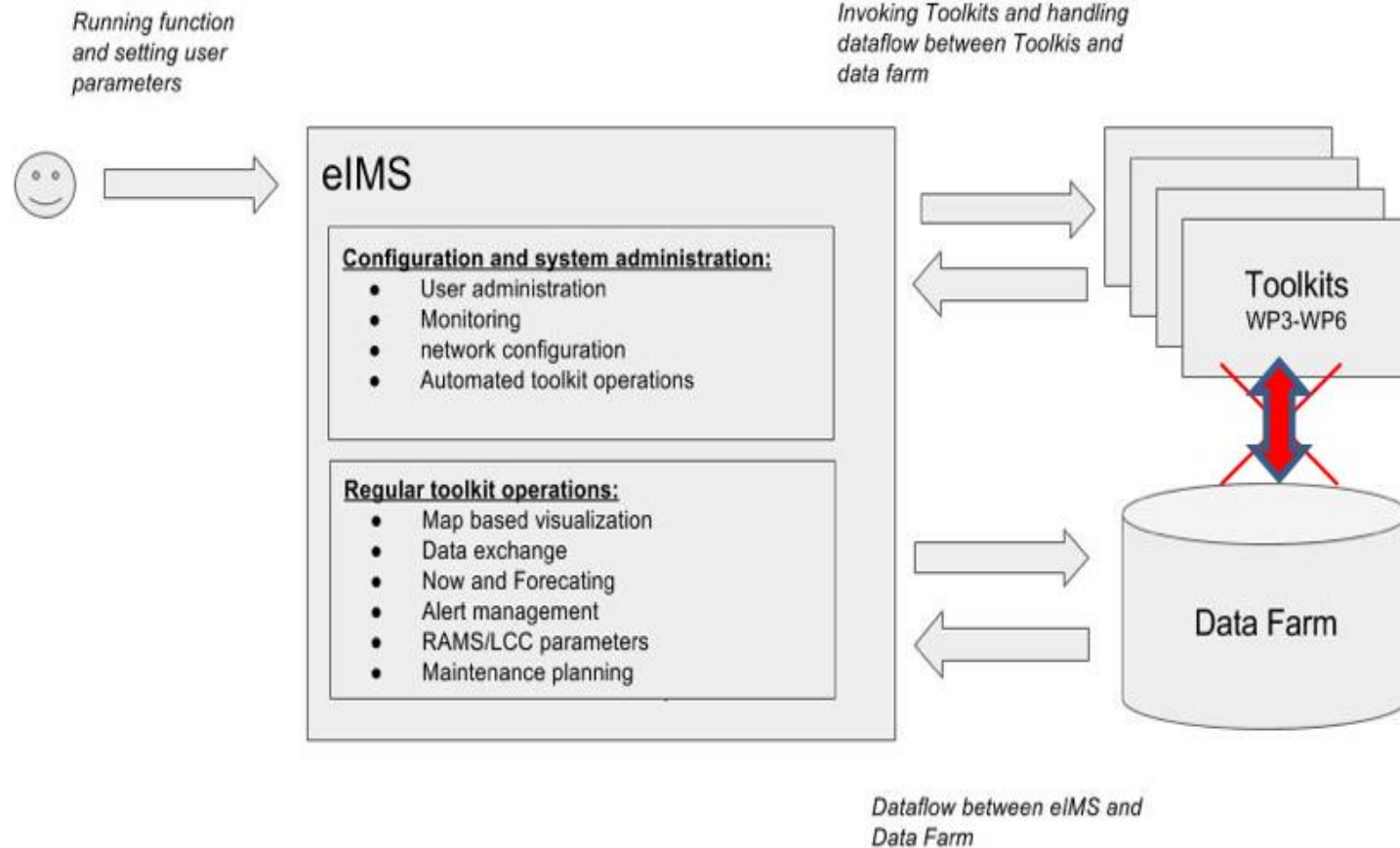
4 expert based  
toolkits





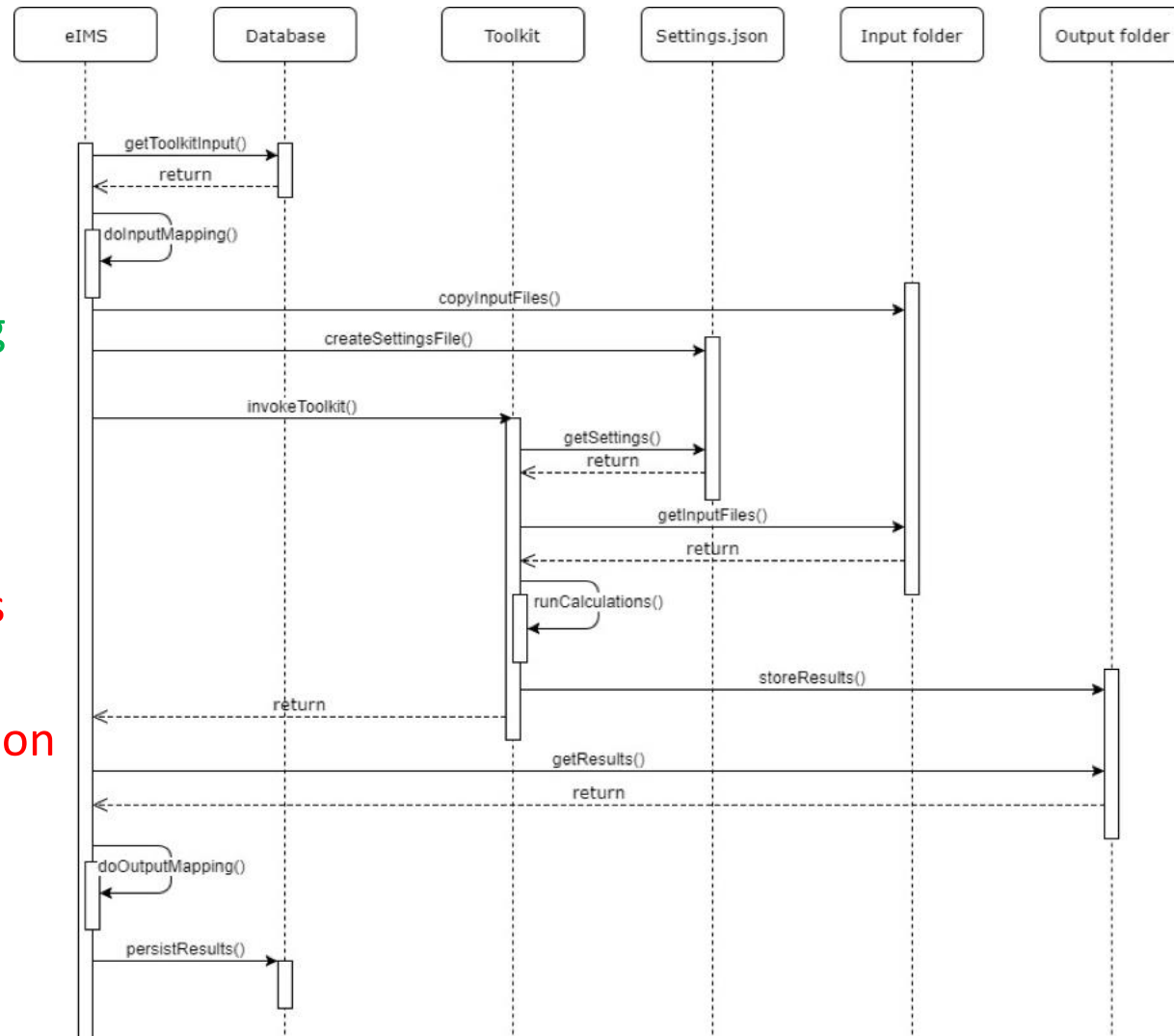
- General overview
- eIMS platform
  - framework
  - software architecture
- Interoperability
  - file based mode
  - REST API
- The presentation layer (GUI) – **live DEMO**
  - authentication, authorization
  - network, campaign management
  - toolkit visualisation





# Toolkit file based mode interoperability

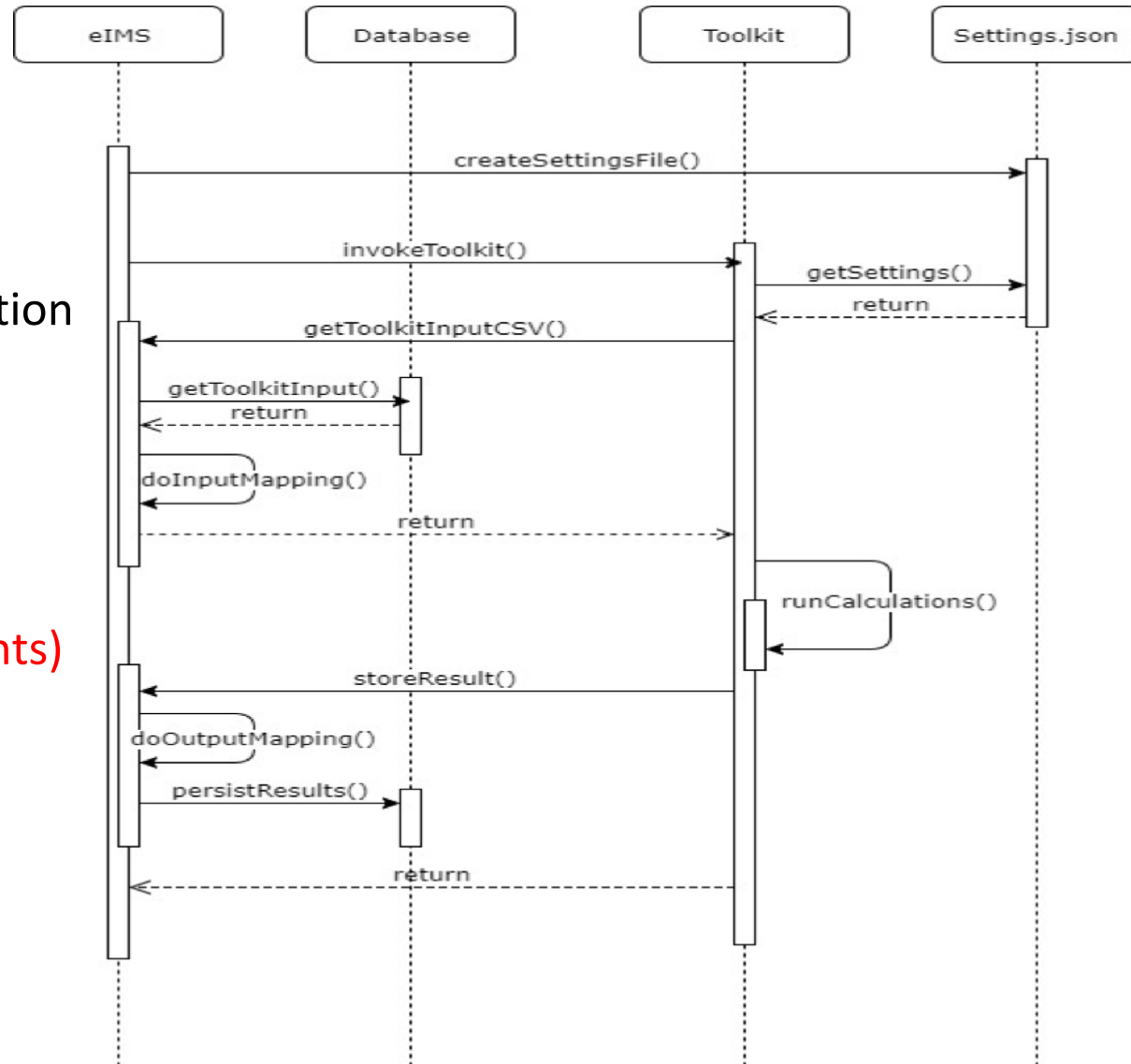
- Controlled by eIMS (settings.json)
- Advantages:
  - independent testing environment
  - easy to implement
- Disadvantages:
  - extra file operations input, output files
  - extra “toolkit” logic on eIMS side



# Toolkit REST API interoperability



- Controlled by eIMS (settings.json)
- **Advantages:**
  - Smarter communication
  - Best practice, de facto standard
- **Disadvantages:???**
  - eIMS dependencies (eIMS REST endpoints)



- General overview
- eIMS platform
  - framework
  - software architecture
- Interoperability
  - file based mode
  - REST API
- The presentation layer (GUI) – **live DEMO**
  - authentication, authorization
  - network, campaign management
  - toolkit visualisation



The screenshot displays the INFRA ALERT eIMS GUI interface, divided into several functional areas:

- Network map:** A map of Coimbra, Portugal, showing a highlighted green network route through the city.
- Simulative evaluation:** A dashboard with multiple bar charts and line graphs. A large red watermark "live DEMO !!!" is overlaid on this section. The charts include:
  - Simulated costs (Bar chart)
  - Network quality (Line graph)
  - Simulated network availability (Line graph)
  - Network availability (Line graph)
  - Annual costs (Bar chart)
  - Average network availability (Bar chart)
- Data requirements:** A section for "Data requirements" with a table of parameters and their values.
- Pre-processing:** A section for "Pre-processing" with a table of parameters and their values.
- Forecasting:** A section for "Forecasting" with input fields for "Prediction length", "Confidence levels", "Average flow speed", and "Segmentation method".





[www.infralert.eu](http://www.infralert.eu)

Thank you!



**András JUSZT**



Juszt.andras@regens.hu