Atos
Trusted Digital Partner

SparkInData

Dr. Harald Bauer

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Earth Observation data evolution

Context & Opportunities

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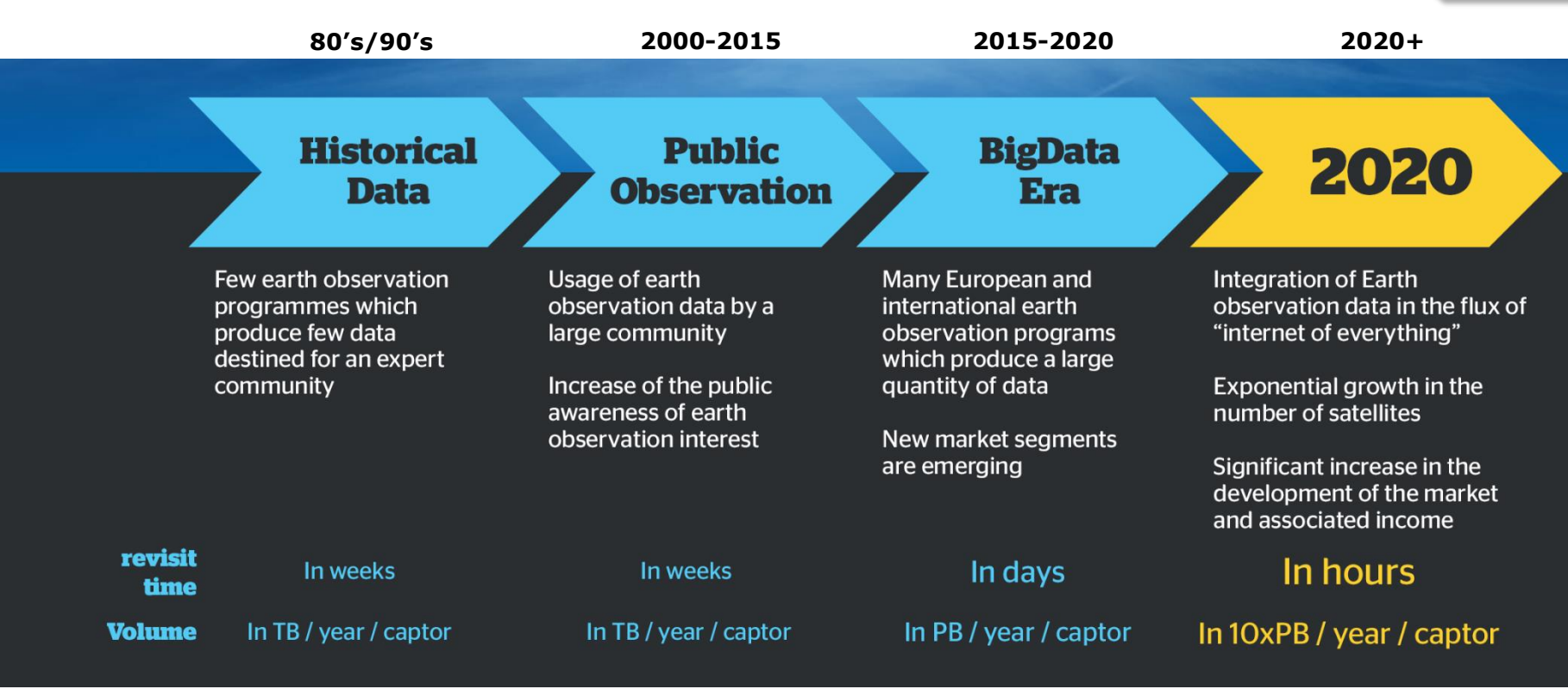

Codex - SparkInData

What is SparkInData ?

SparkInData

Atos Codex

SparkInData

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Technical Strengths

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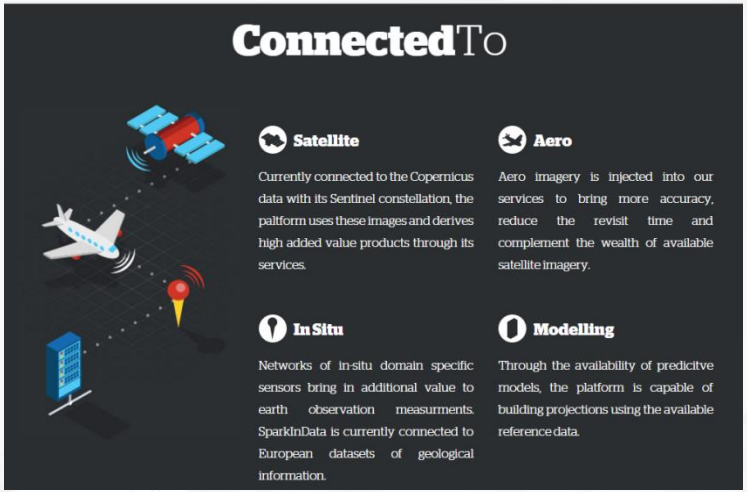

- **Multiple Sources**
  - Access to various sources of geo-localized data
  - Easy data ingestion and exchange
  - Adoption of dissemination & processing standards
- **Interoperable & service oriented platform**
  - All function is accessible online through web technologies
  - A federative approach of platforms
  - Processing modules or chains between users
- **HPC / Big Data**
  - Connection with an HPC for tasks requesting huge processing capacities
  - Cloud infrastructure based on container technology
- **Prototyping of new services**
  - Environement ready to use for prototyping new services
  - Service incubator

THE ENABLER

BUSINESS MODEL

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The enabler

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TECHNICAL STRENGTHS

Design Thinking

- Clear approach for definition, design and deployment of new services
- Exploration of new usages for partners

Partners

- Several types of partners : data providers, algorithm, service or infrastructure
- Large institutions, research laboratories, IT partners, industrials and SME

Customer Portfolio

- Several markets targeted: agriculture, local authorities, environment, defense, oceanography, energy, insurance, aerospace, ...

BUSINESS MODEL

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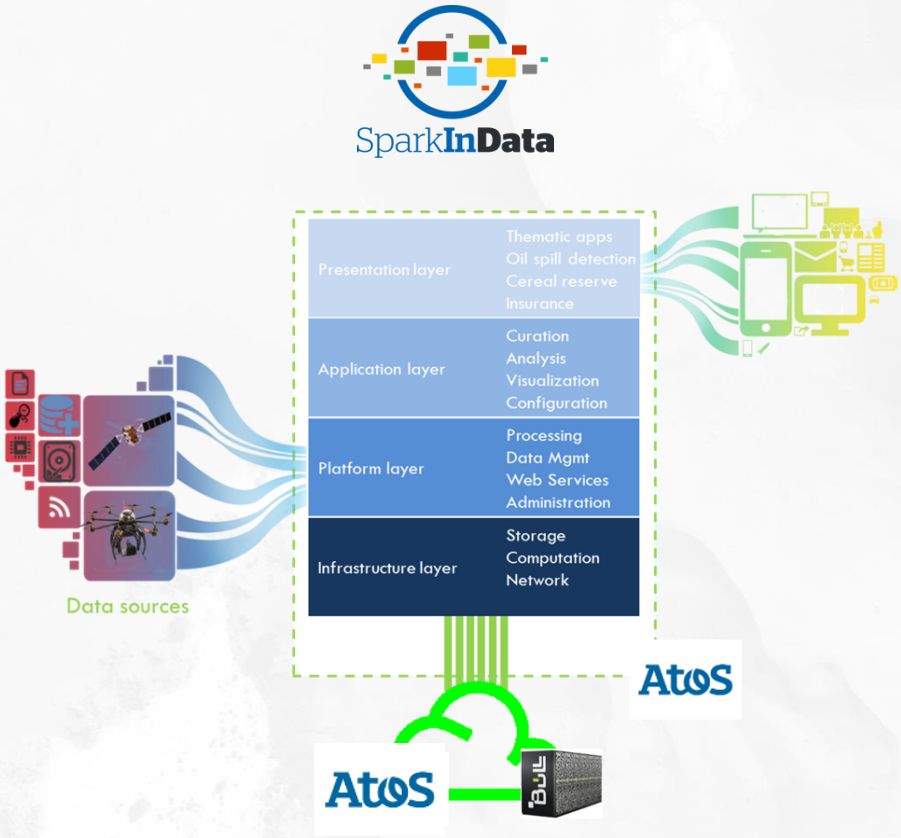
Business model



TECHNICAL STRENGTHS

THE ENABLER

Market Place

- Pay as you use model for infrastructure, platform, software, data or information
- Limited integration costs
- High visibility of deployed applications & services
- Multiplication of revenue streams
- Easiness of collaboration

Return on investment for partners

- Direct monetisation of services
- Feedback on the service usage
- Continuous increase of the targeted audience

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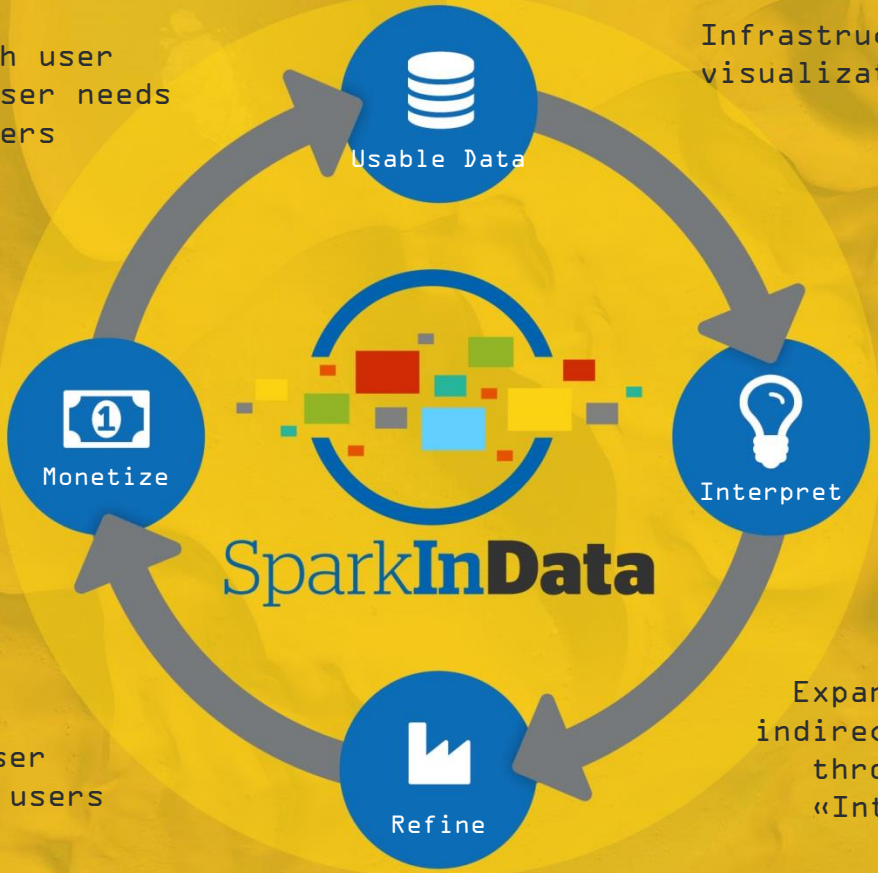
Data life cycle

Data is enhanced with user feedback, meeting the user needs with the data offers

Infrastructure, analysis tools, of visualization and provision of the Platform

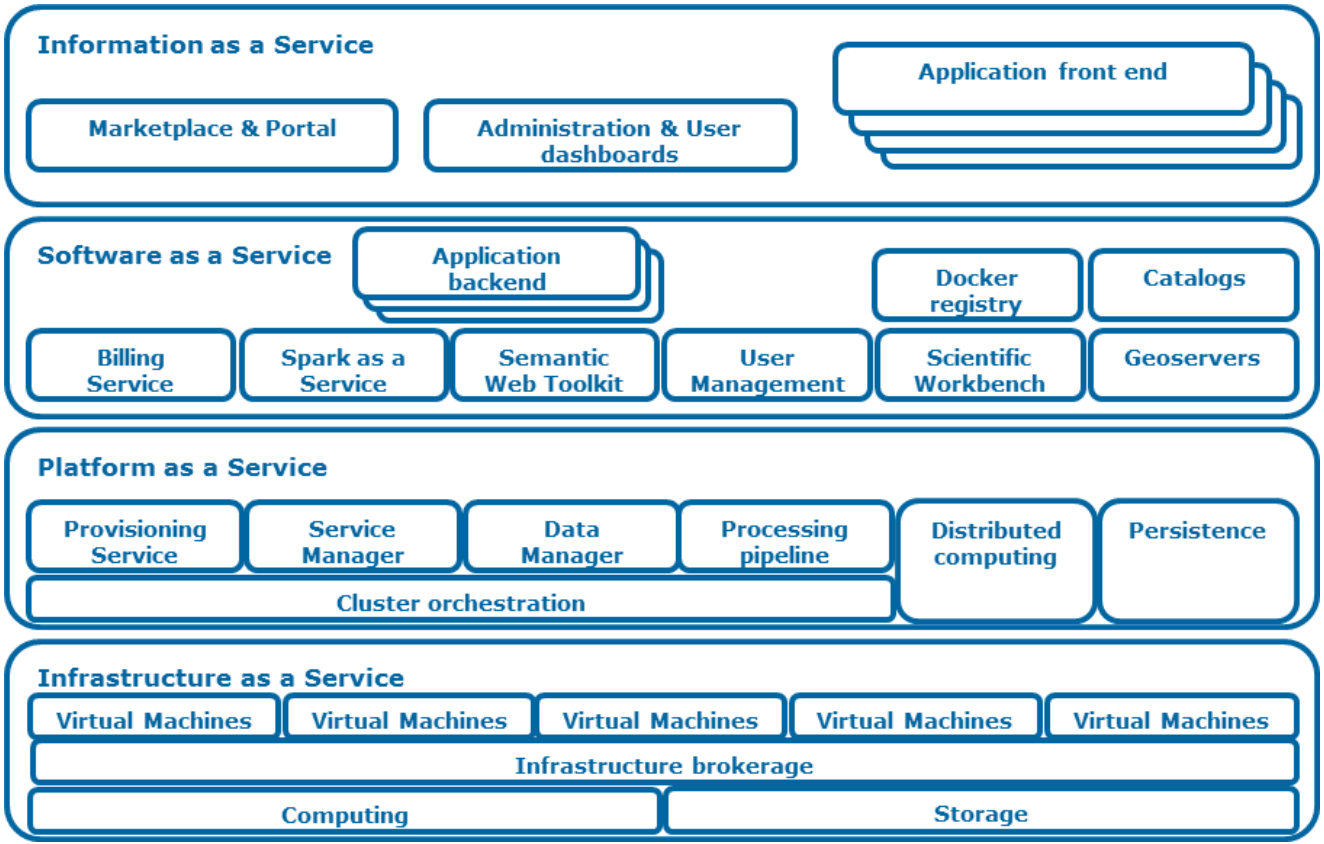


Each contributor receives a return on investment

Customization of available resources for each use case

Development of user communities and new users

Expand the information and indirect value creation offer, through the links to the «Internet of Everything»


Information as a Service
Application front end
Marketplace & Portal
Administration & User dashboards
Software as a Service
Application backend
Docker registry
Catalogs
Billing Service
Spark as a Service
Semantic Web Toolkit
User Management
Scientific Workbench
Geoservers
Platform as a Service
Provisioning Service
Service Manager
Data Manager
Processing pipeline
Distributed computing
Persistence
Cluster orchestration
Infrastructure as a Service
Virtual Machines
Virtual Machines
Virtual Machines
Virtual Machines
Virtual Machines
Infrastructure brokerage
Computing
Storage

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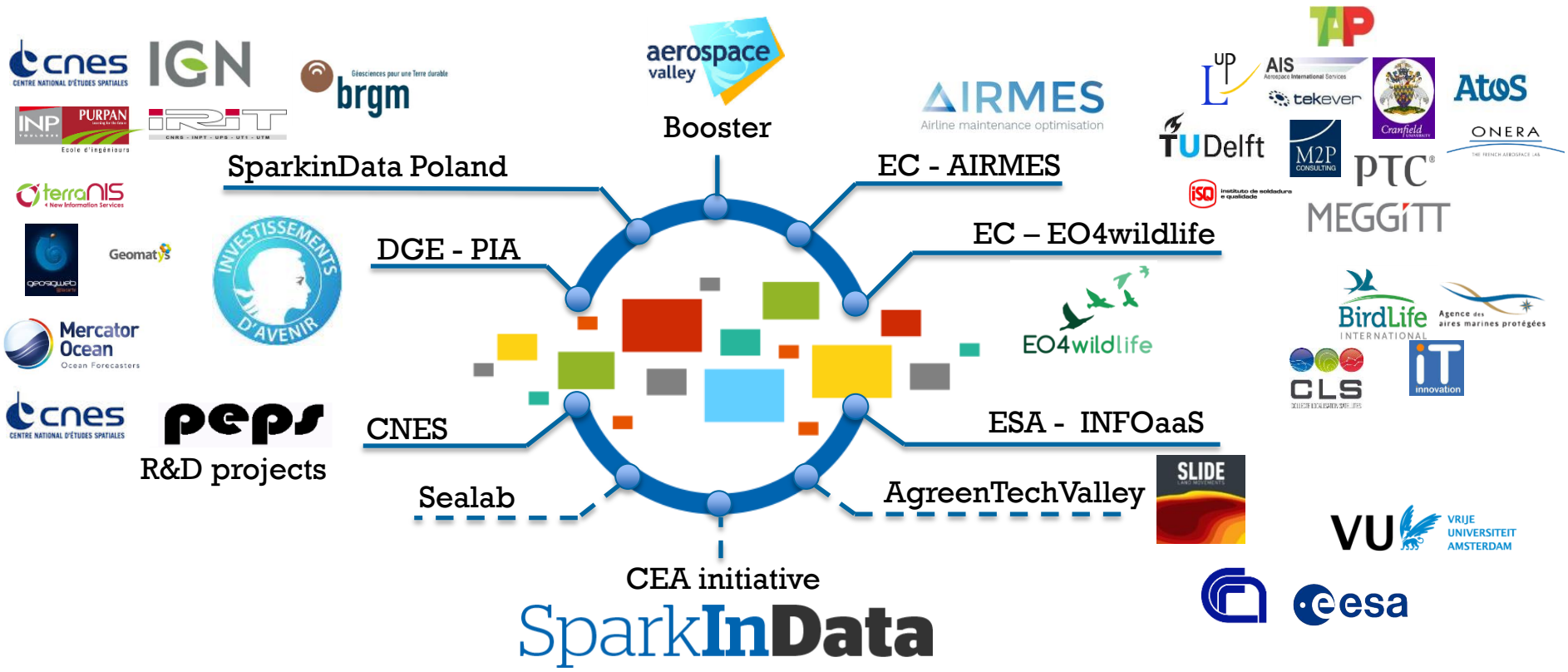
Underlying project



EO4wildlife *- European Commission*

Objective

- Stimulating wider research use of Copernicus Sentinel Data by convincing thousands of biologists, ecologists, scientists and ornithologists around the world to use more and better European Sentinel Copernicus Earth Observation data
- Set up an operational **easy-to-use platform** to query, search, mine and extract information from Sentinel EO data, ARGOS archive databases and real time thematic databank portals
- Provide additional functionalities via a toolbox: **connections to other external databases** (owner database)

Consortium – 7 partners

- Atos Spain Research & Innovation
- Atos FR C&SI
- CLS – Collecte Localisation Satellites SA
- Agence des aires maritimes protégées
- Birdlife International
- University of Southampton – IT Innovation
- University of Exeter

Atos Role

- Provide a data oriented platform and its associated toolbox with highly flexible services that can be utilised regardless of the research field, skills and objectives

- **Predicting seabird distributions** - Seabird tracking data and oceanographic variables can be combined to develop predictive habitat utilisation and species distribution models
- **Better knowledge of pelagic fish's migrations routes and habitat use** - The use case will focus more specifically on Blue fin tuna species in the Mediterranean and North Atlantic regions
- **Copernicus Sentinel data for MPA managers** to provide them with reliable tools for surveillance on human activities in MPAs
- **Identifying marine turtle behaviours** - The final objective of this scenario is to support scientists involved in marine turtle studies to predict turtles' distributions

Thank you

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