

# **DOMINO-X WP 3.1**

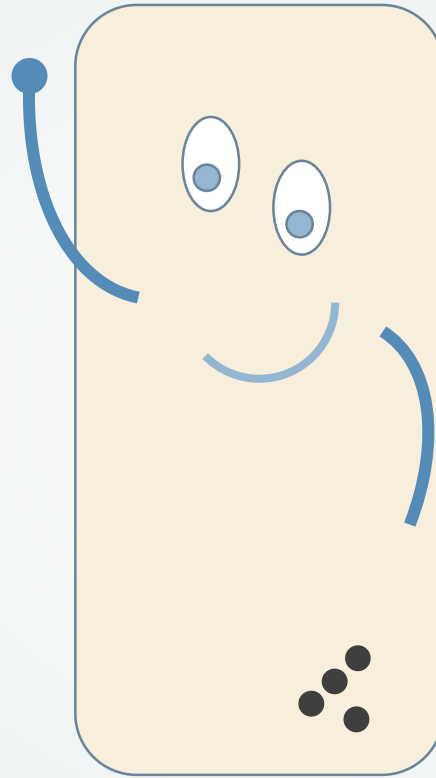
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High Level Concept Proposal

and

Associated checklist

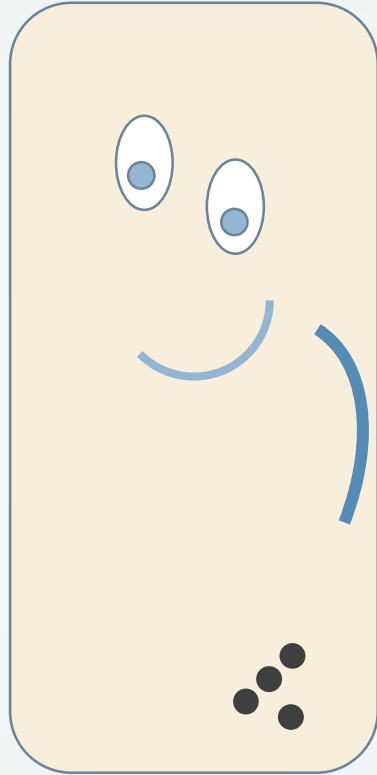
This is a **DOMINO** !



It's the name we give  
to an atomic  
element studied by  
WP 3.1.

# What is a DOMINO?

A DOMINO provides a valuable **SERVICE** useful to any Earth Observation Ground Segment

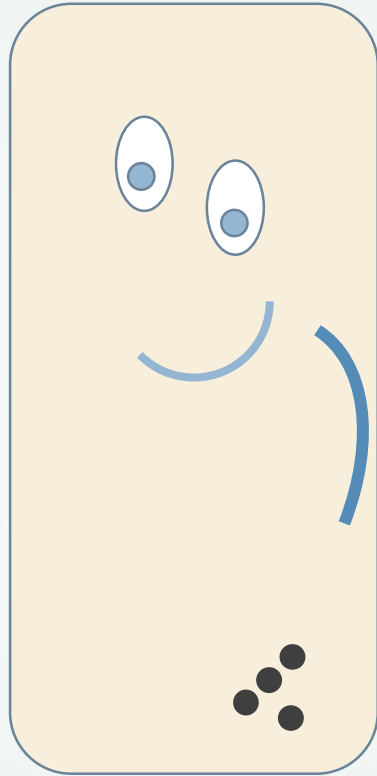


## A DOMINO:

- **Autonomously** produces outputs from a set of inputs
- May serve **several missions**
- Can be deployed on a **cloud**
- Is **independent** from other dominoes infrastructure
- Is **accountable** for its **performances**
- Is **interchangeable** by another implementation respecting the same interfaces

***Example:** An image processing service able to transform ITM (provided by another DOMINO) into images delivered to its customers (or to a DOMINO archive)*

# What isn't a DOMINO?



## A DOMINO:

- Is not a toolbox
- Is not a framework
- Is not a building block (not a library)

*Example:* **TBC**

# How to define a DOMINO's scope?

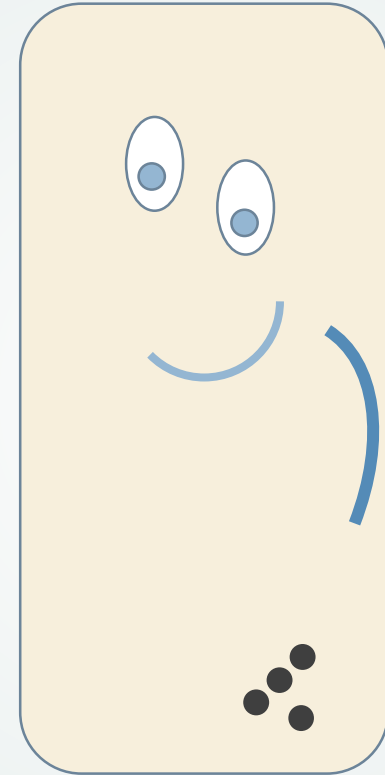
When defining the scope of a domino, the following checks can serve as guidelines

## Domino's scope checks

1. Domino scope shall have “ready to bid” offers by several trusted companies
2. Domino scope shall represent a consistent and autonomous set of features which provide a solution to a full functional need
3. Domino scope shall minimise communication interfaces with other dominoes
4. Domino scope shall allow the reuse by several different missions without impact on its definition

## Also keeping in mind additional checks

1. Avoid too big or too small dominoes / Keep a level of homogeneity between dominoes
2. Keep a consistency in the business skills needed to implement the domino

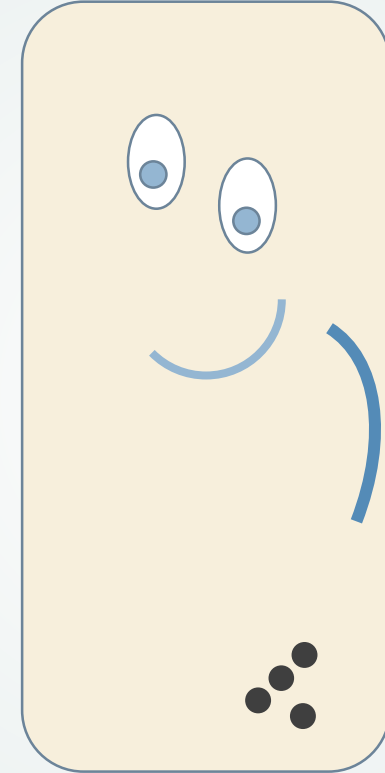


# What are the DOMINO's properties?

In addition to properties induced by “What is a DOMINO”, each domino must comply with a set of properties

## Domino's properties

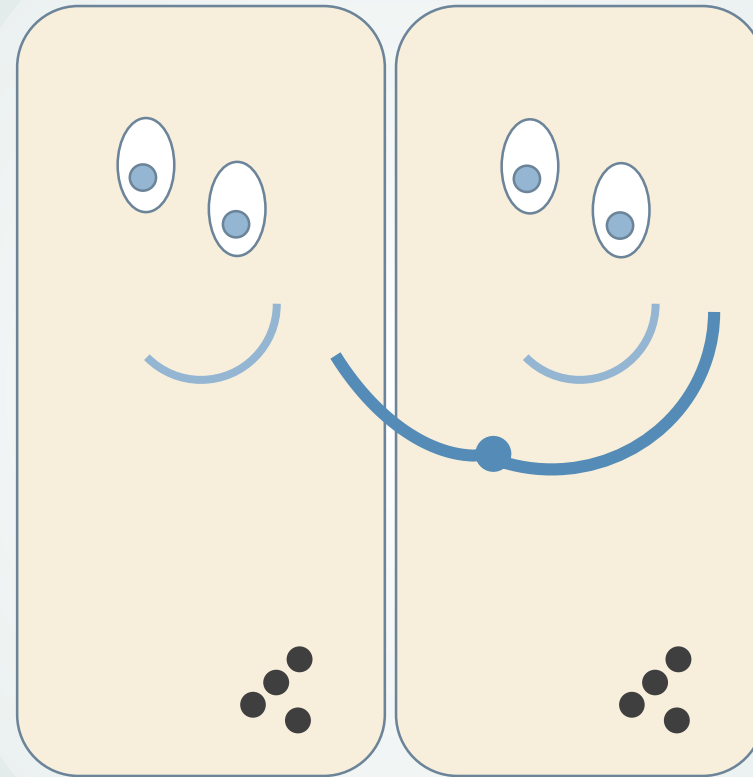
1. Domino technical definition shall not depend on technology choices and/or be impacted by technology evolutions both short and long term
2. Domino shall be able to run on its own infrastructure
3. Domino shall apply basic security guidelines and best practices to protect against outside threats
4. Domino shall comply with cloud computing standards in terms of deployment, monitoring & control, scalability and elasticity
5. Domino shall have well defined interfaces, based on recognised standards
6. Domino shall provide information, such as KPI and IT info, for high level supervision, on a configurable periodic basis



# What about the system level?

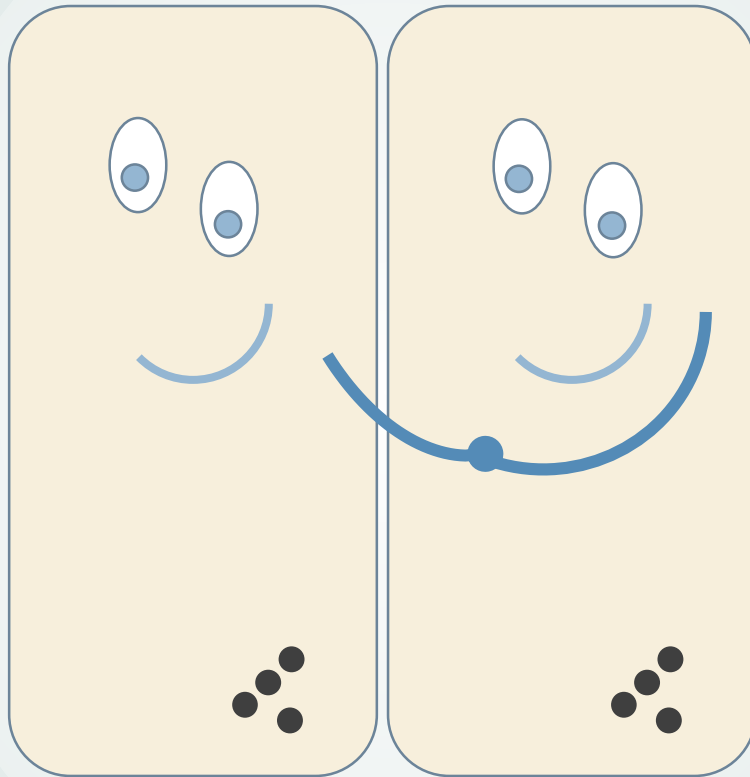
The Domino-X Ground Segment is made up of several Dominoes to

- Significantly **reduce** development & integration **costs** and self-ownership of the System Integrator
- **Reduce schedule** to develop and integrate the GS, including the time to connect each domino, to configure the system, to validate and qualify solutions
- **Reduce operation costs** for the customer, by allowing operation at Domino level
- Ease the creation of **new industrial actors** and the development of **partnerships**
- Accelerate technology **innovation**
- **Optimise** end to end **performance** of the GS



# What about a complete system?

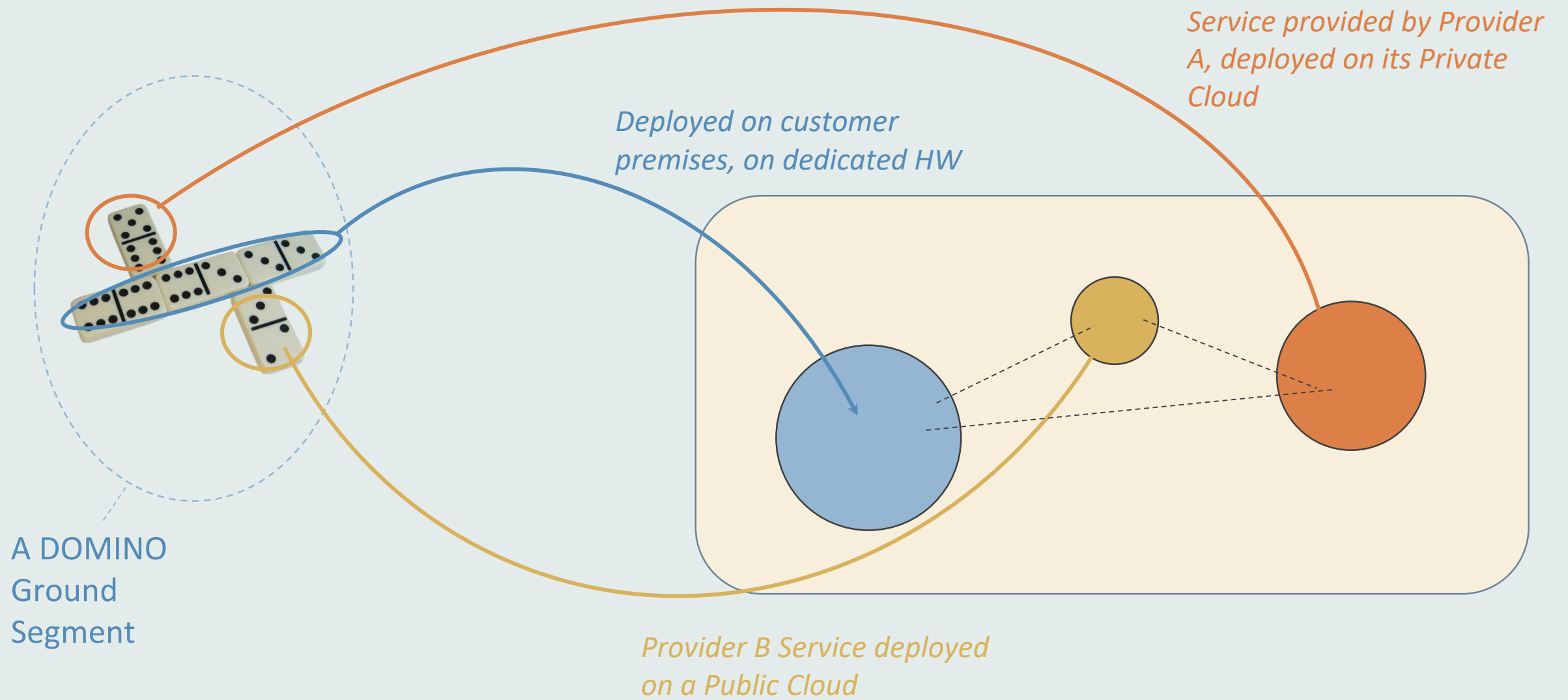
A complete system is built by inter-connecting existing and/or new DOMINOES



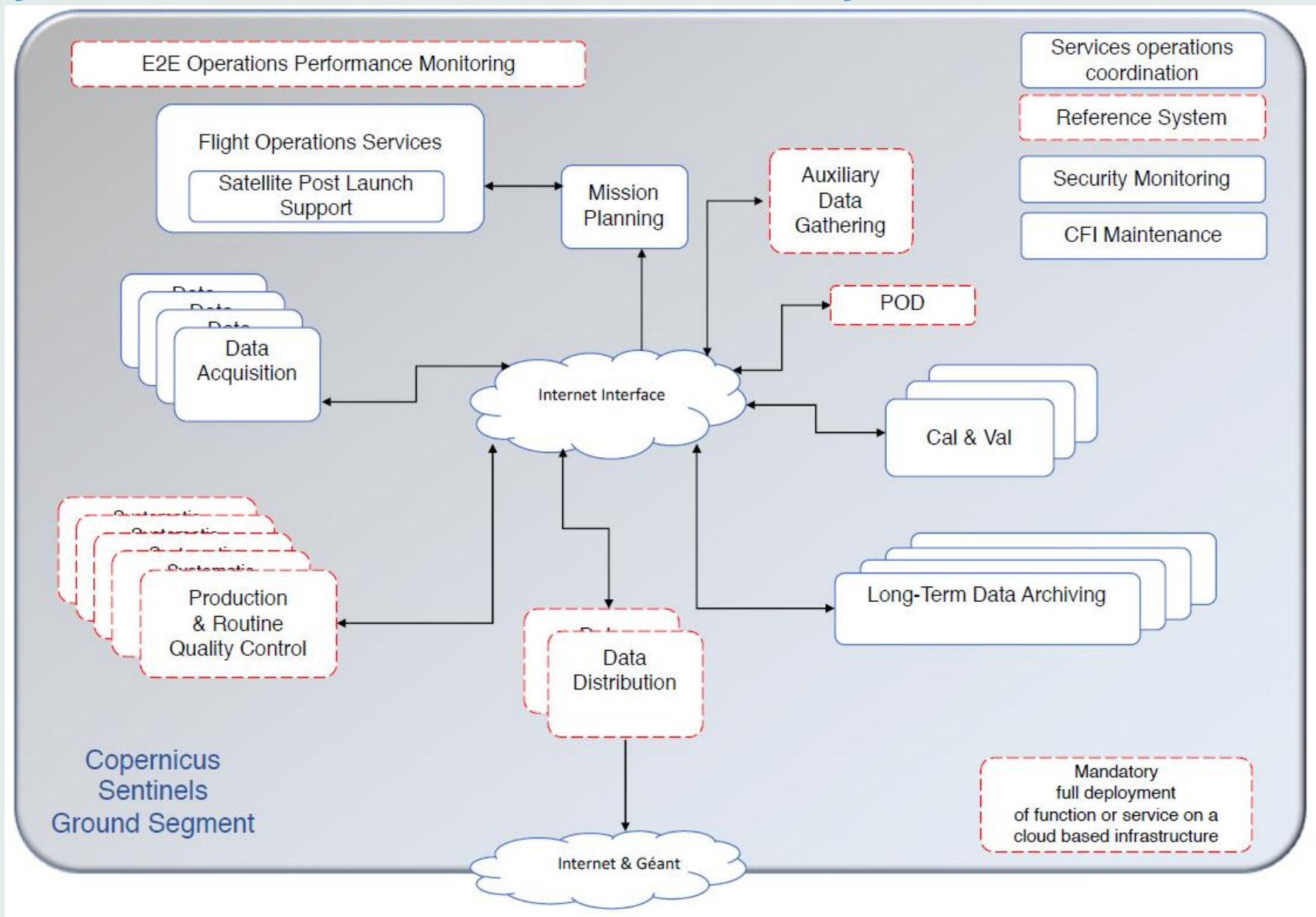
The introduction of a new DOMINO shall minimize impacts on existing ones (loose coupling)



# What a future DOMINO GS looks like?

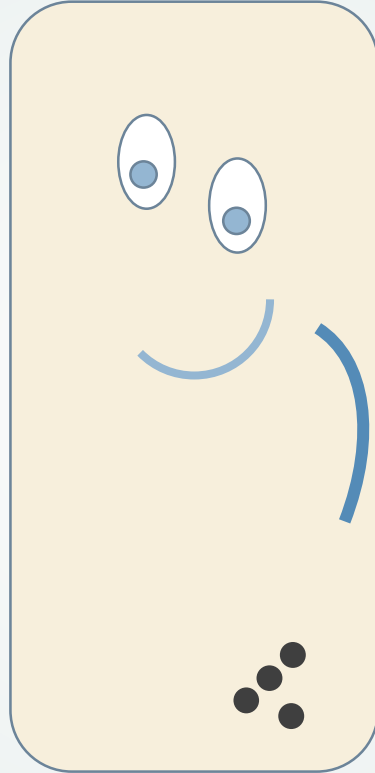


# Example of “dominoes” from ESA Copernicus



# So, what next?

In the WP 3.1, we have to define the list of all DOMINOES, their services and their interfaces



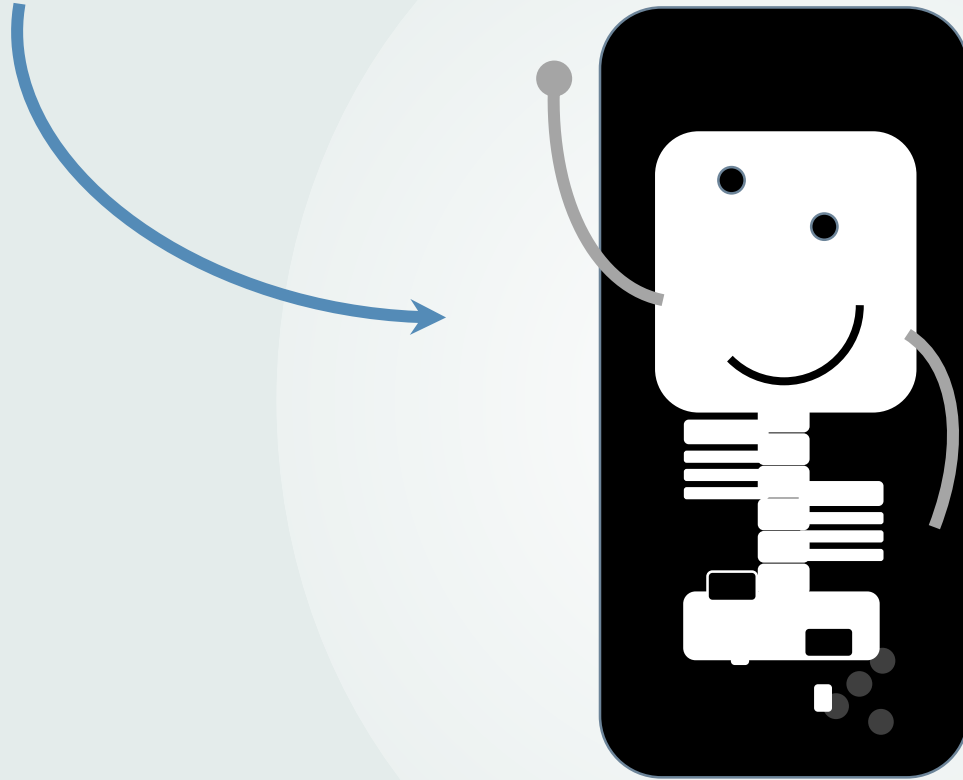
## Do's

- We shall study a DOMINO with respect to the given service and not in a Ground Segment centered
- We shall check at the end that all the listed DOMINOES cover all the defined CONOPS

## Don'ts

- We shall not issue a « Full GS » specification
- We shall not issue a common IT specification but think guidelines to simplify deployment DOMINOES over the same IT

# What a DOMINO is made of?



It is not in the scope  
of the WP 3.1!

*But in the scope of others WP  
for a subset of DOMINOES*

**Questions?**



**Feedbacks?**