



**webinar on  
Space4Tourism with a focus on  
water  
Thursday, 17<sup>th</sup> October 2024,  
10 - 11.30h (Brussels Time)**

**InCubed  
The Golden Twins**

**Betty Charalampopoulou  
GEOSYSTEMS HELLAS**



2 companies & 3 academic institutions

## Prime Contractor



## Subcontractors



ARISTOTLE  
UNIVERSITY OF  
THESSALONIKI



Laboratory of Photogrammetry

NTUA PH [O] T O  
GRAMMETRY  
COMPUTER VISION  
CADASTRE  
LAND ADMINISTRATION



HELLENIC REPUBLIC  
National and Kapodistrian  
University of Athens

EST. 1837



## 01

### Company

**Geosystems Hellas S.A.** was established in 2009 and is based in Athens with two branches (Athens, Crete)



## 02

### Partners

Consisting of **32 employees**, encompassing a diverse team of engineers, software engineers, scientists and communications all contributing to the success of our company



## 03

### International Collaborations

Participates in numerous commercial and R&D national and European projects



## 04

### Qualifications

ISO 9001:2015  
ISO 27001:2013  
ISO 22301:2019  
ISO 14001:2015

**NATO SECRET-EU SECRET**

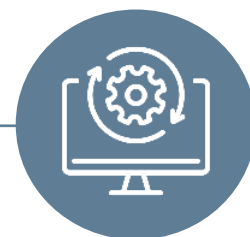




## COMMERCIAL & INDUSTRIAL PROJECTS

**PROVISION** of added value services in the Downstream Space Market including Earth Observation, Data analysis Applications and Geospatial Intelligence

**CONSULTANT** in Greece and Cyprus on complex geoinformatics systems and integration projects



## SOFTWARE DEVELOPMENT AND SUPPORT

**RESELLER & CONSULTANT** in Greece, Cyprus for Hexagon Safety, Infrastructure & Geospatial & Hexagon Airborne Solutions

**SUBJECTS:** Photogrammetry, Remote Sensing, Coastal & Marine, Geodetic & Environmental Monitoring projects



## PROVIDES INNOVATION TO THE PROJECTS

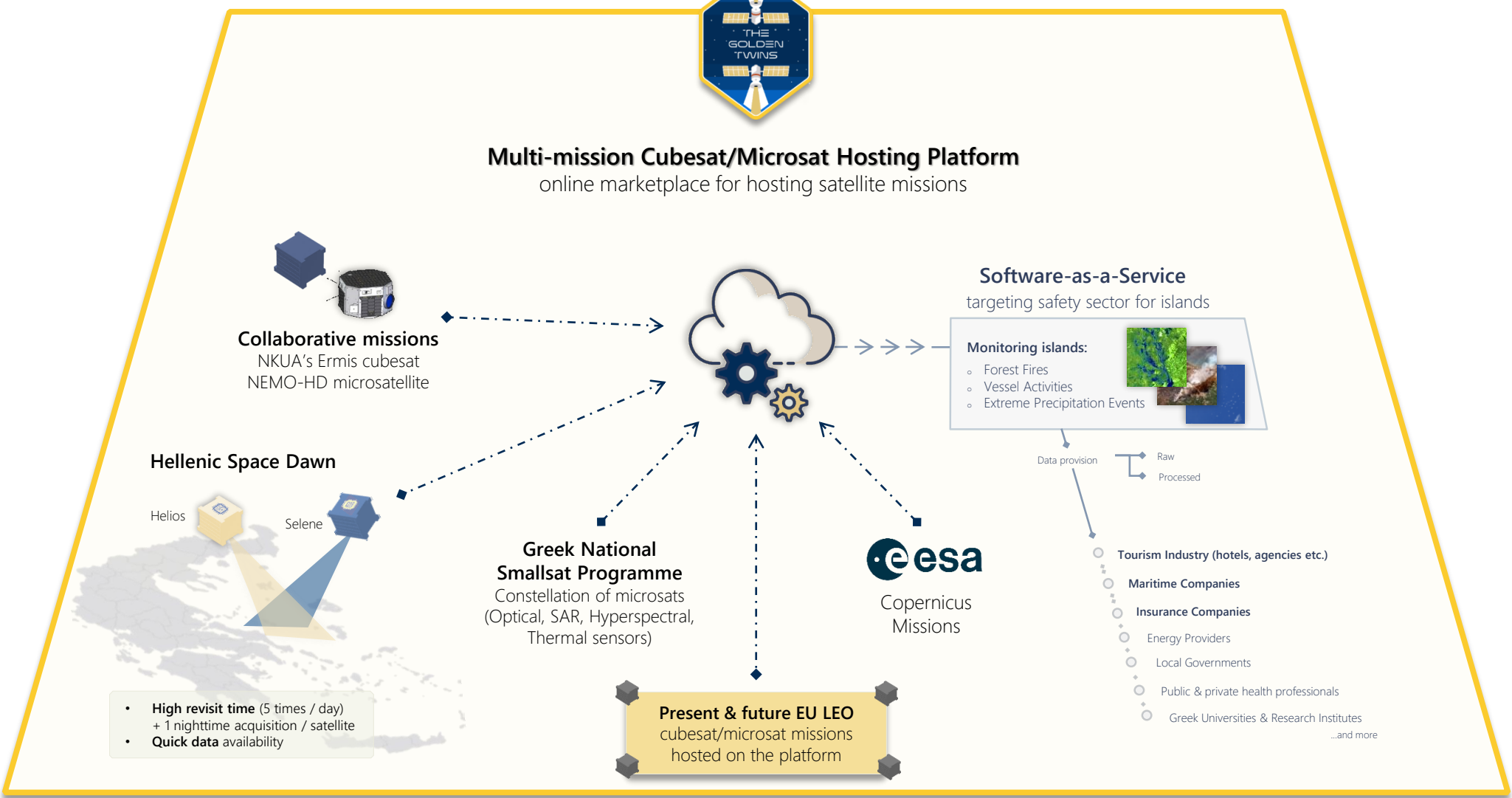
**R&D PROJECTS** more than 20 ongoing projects (HORIZON, ESA, National)

**COMMERCIAL PROJECTS:** Earth Observation, Big Data – Data Fusion – Machine Learning (ML) /Deep Learning (DL) techniques



## Multi-mission Cubesat/Microsat Hosting Platform

online marketplace for hosting satellite missions



**Collaborative missions**  
NKUA's Ermis cubesat  
NEMO-HD microsatellite

**Hellenic Space Dawn**  
Helios  
Selene

- **High revisit time** (5 times / day)  
+ 1 nighttime acquisition / satellite
- **Quick data** availability

**Greek National Smallsat Programme**  
Constellation of microsats  
(Optical, SAR, Hyperspectral,  
Thermal sensors)

**esa**  
Copernicus  
Missions

**Present & future EU LEO**  
cubesat/microsat missions  
hosted on the platform

**Software-as-a-Service**  
targeting safety sector for islands

**Monitoring islands:**

- Forest Fires
- Vessel Activities
- Extreme Precipitation Events

- Data provision
- Raw
  - Processed
- Tourism Industry (hotels, agencies etc.)
  - Maritime Companies
  - Insurance Companies
  - Energy Providers
  - Local Governments
  - Public & private health professionals
  - Greek Universities & Research Institutes
  - ...and more



## Multi-mission Cubesat/Microsat Hosting Platform

online marketplace for hosting satellite missions

**Collaborative missions**  
NKUA's Ermis cubesat  
NEMO-HD microsatellite

**NKUA's hyperspectral cubesat (*Ermis*)**  
is in a relevant phase with the HSD cubesats

**Hellenic Space Dawn (HSD) Cubesats**  
The project passed the Design Review in **July 2023**  
The project passed the Interim Review in **April 2024**  
The Cubesats (*Helios & Selene*) and their PDGS are being prepared

### Hellenic Space Dawn

Helios Selene

- **High revisit time** (5 times / day)  
+ 1 nighttime acquisition / satellite
- **Quick data** availability

**Greek National Smallsat Programme**  
Constellation of microsats  
(Optical, SAR, Hyperspectral,  
Thermal sensors)

### Greek National Satellite Space Project Earth Observation Element (GNEO - Axis 1 and 2)

The projects have been awarded to specific consortia, passed the negotiation phase in August-September 2024, and they kicked-off in **September 2024**. Nevertheless, the contracts will be signed in November 2024. Timeframe from procurement to operational system is <3 years:

- Launches: from Q1 2025 to Q1 2026
- Delivery of operational system: June 2026

**3 Services** : Development of specific SAAS web-based software for each application.

## Description



### Forest Fire Prevention, Monitoring & Post Fire Mapping

Detect fire outbreaks and monitor their behavior, assess fire risk, track fire progression, map post-fire.



### Extreme Precipitation Events Monitoring

Coastal or inland floods, Infrastructure damage detection



### Vessel Monitoring

Detecting illegal vessel activities, monitoring vessel incidents and accidents, track and analyze general ship traffic patterns

### (+1) Satellite Tasking

Ability to task the HSD and the collaborating cubesats/microsatellites for capturing on-demand imagery

## Golden Twins Platform

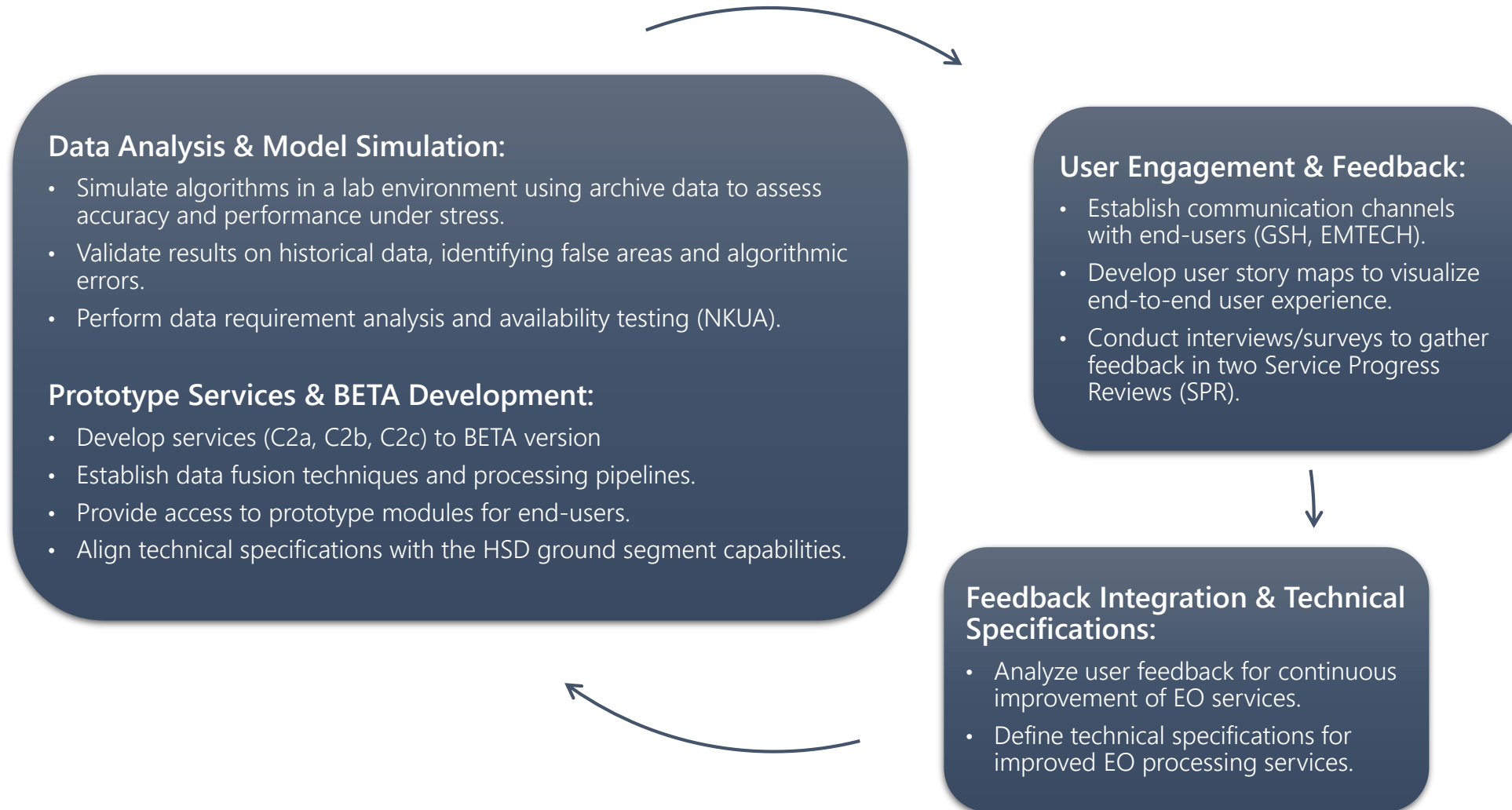
### Expertise and Proficiency

- Developed sophisticated platforms in EU R&D projects.
- Proficiency in creating advanced WebGIS applications, with enhanced usability and user-friendly UI.
- Implemented interoperability framework in Docker for efficient development.
- All-purpose utilization of NGINX and GeoServer containers.

### Deployment & Expansion

- Focus on creating APIs and integrating all the monitoring services.
- Relevant (EO) processing services to be implemented in the Payload Data Ground Segment (PDGS) of the CubeSats future missions.
- GSH will refine and expand the suite of applications offered by GoldenTwins, by drawing on its experience with free and open-source libraries/tools.







## HEMEXPO

## Lamway Hotel Management Group

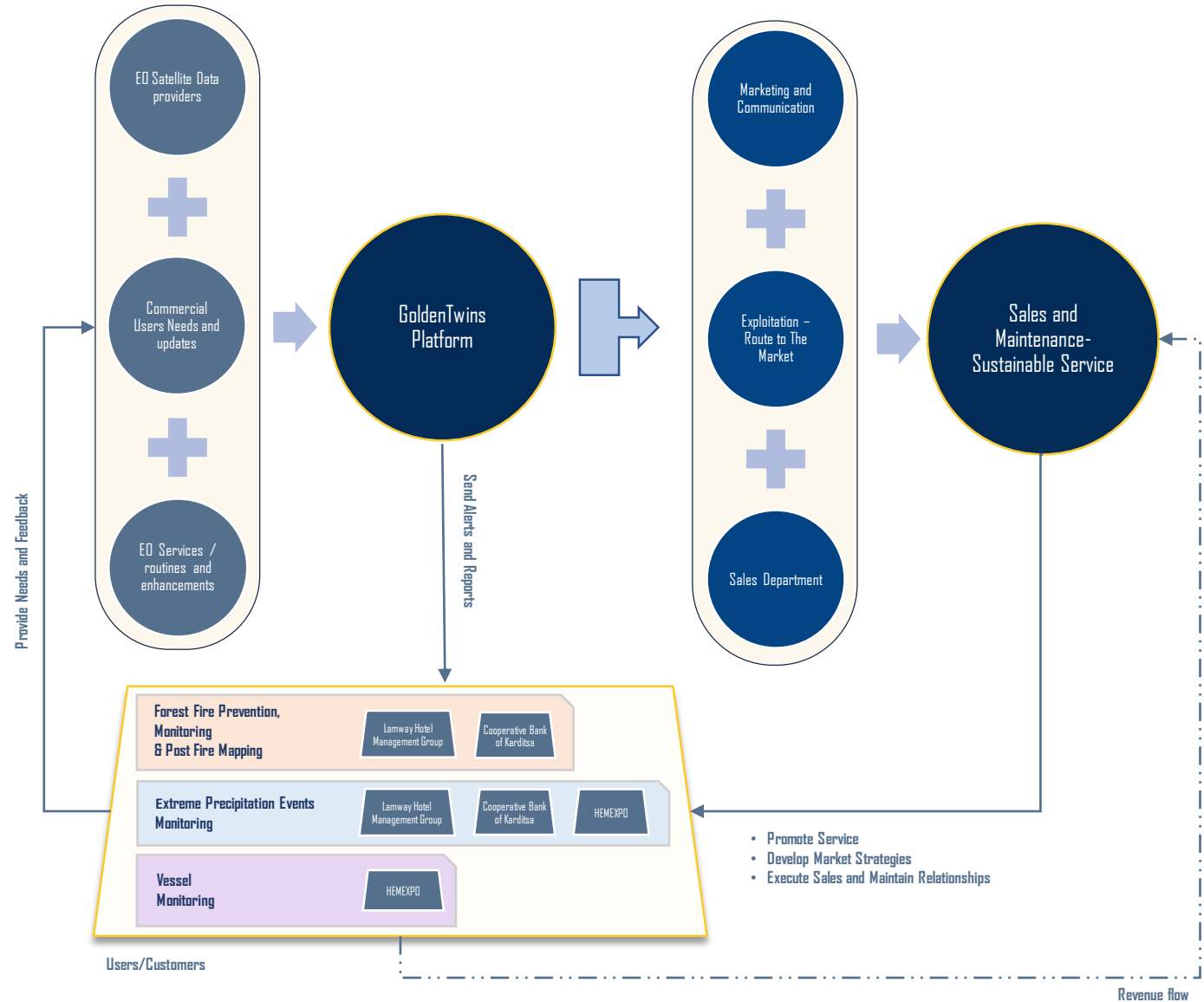
## Cooperative Bank of Karditsa

Participate as pilot users to:

- provide feedback on service functionalities (De-risking)
- guide development and validate the platform (Product Development)

*\*Letters of Support Provided*

	Lamway Hotel	HEMEXPO	Cooperative Bank of Karditsa
Service C2a (fires monitoring) functionalities	X		X
Service C2b (extreme precipitation monitoring) functionalities	X	X	X
Service C2c (vessel monitoring) functionalities		X	
Platform UI/UX	X	X	X
Operation of the GT platform/system as a whole	X	X	X



Service	Sales Method	Pricing
<b>Fire Monitoring</b>	- Annual Subscription (24/7 access) - On-demand Reporting/Mapping	-5,000 €/year  -On-demand: Tailored pricing
<b>Extreme Precipitation Events Monitoring</b>	- Annual Subscription (24/7 access) - On-demand Reporting/Mapping	-5,000 €/year  -On-demand: Tailored pricing
<b>Vessel Monitoring</b>	- Annual Subscription (24/7 access) - On-demand Reporting/Mapping	-7,000 €/year  -On-demand: Tailored pricing
<b>Cubesat Tasking</b>	- On-demand Reporting/Mapping	-On-demand Tasking Services

## *Market-Centric & Value-Driven Pricing*

Golden Twins uses **market-centric** and **value-driven pricing** strategies:

- Market-Centric:** Competitive analysis of similar services.
- Value-Driven:** Pricing based on demand, service costs, and the added value for users (e.g., vessel monitoring covers 30% cost and the extra value that this service offer).

# 6-Month User Engagement & Feedback Plan



- Objective: Refine pricing through user interaction, beta demonstrations, and feedback.

## 1. Engage the 3 end-users (HEMEXPO, Lamway Hotel Management Group, Cooperative Bank of Karditsa)

- ⑩ Conduct interviews/questionnaires to gather expectations on pricing and feature preferences.
- ⑩ Use semi-structured interviews in order to help see patterns between different options of the services (subscription vs. on-demand).

## 2. Feedback after the two Beta Version Demonstrations

- ⑩ Distribute post-meeting questionnaires focused on pricing willingness and feature preferences.
- ⑩ Use online forms/questionnaires with choices of price preferences (different pricing ranges), package preference (subscription vs. on-demand), and extra feature preferences.

## Data Analysis & Adjustments:

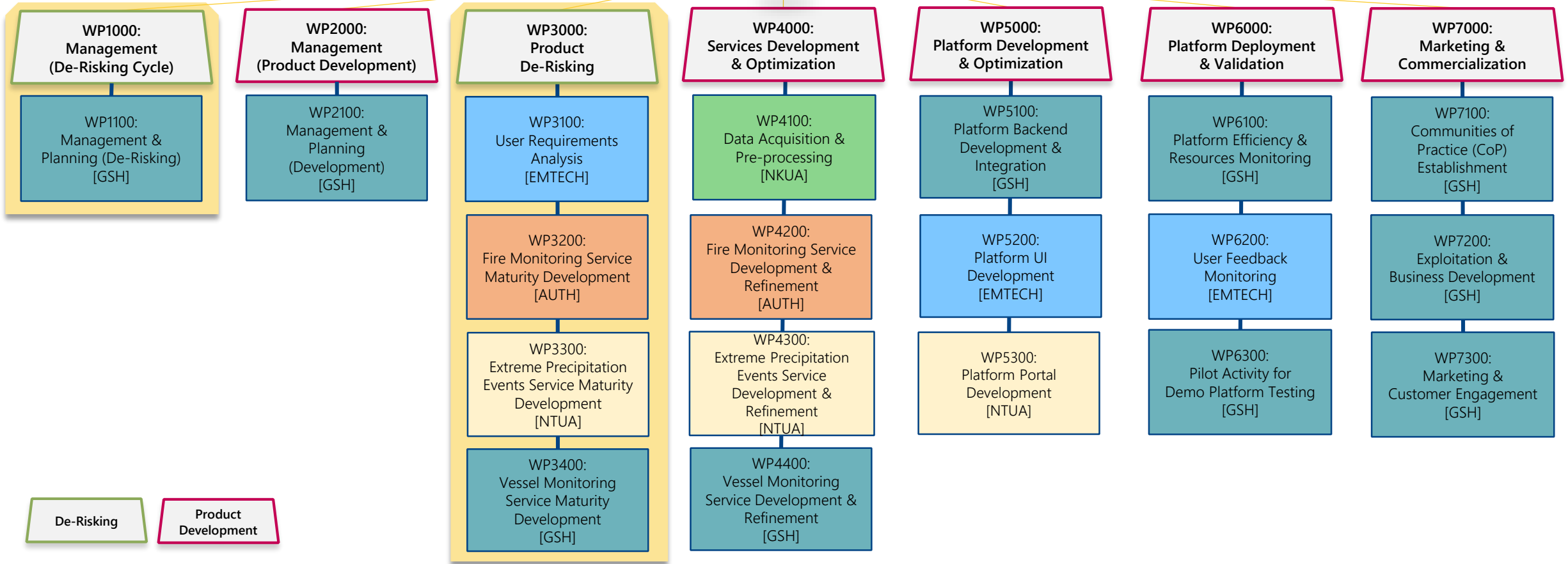
- ✓ Contact more end-users
  - distribute more questionnaires
  - get further feedback
  - more accurate results
- ✓ Analyze feedback and trends to finalize pricing strategy.

## Example of Semi-Structured Interview:

- The flow will depend on the client's responses, with open-ended questions guiding the discussion.
- Topics: service package preference (annual or on demand), pricing preferences, and extra features.

## Sample Questions:

<b>Do you currently use a similar service?</b>	<b>Pricing model: Annual subscription VS on-demand</b>	<b>How much would you be willing to pay for an annual subscription?</b>	<b>What additional features or improvements would justify a higher price?</b>
<ul style="list-style-type: none"><li>• ...</li><li>• ...</li></ul>	<ul style="list-style-type: none"><li>• ...</li><li>• ...</li></ul>		
<b>How much do you pay for it?</b>	<b>Why?</b>	<b>What is the most valuable feature of the service to you?</b>	<b>Features X with \$ price vs Features Y with \$\$\$ price?</b>
<ul style="list-style-type: none"><li>• ...</li><li>• ...</li></ul>	<ul style="list-style-type: none"><li>• ...</li></ul>		





**Thank you**