Enhancing Copernicus Security Services – EU governmental crisis management hub for forced population displacement

Exploitation plan (Version 1), D13.3

WP13 – Communication, Dissemination, Training and Exploitation of initial project results - 1st period

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Legal Disclaimer

Contents

Executive Summary

The current deliverable, D13.3 – "Exploitation Plan (Version 1)", corresponds to Task 13.2 – "Initial exploitation plans and activities preparation" and Task 13.3 – "Identification of IPR issues and patentable content" under WP13 – "Communication, Dissemination, Training and Exploitation of initial project results - 1st period", led by ICCS.

It serves as the first comprehensive version of THEIA's exploitation framework, outlining how the project's technologies, services, and research outputs will be translated into sustainable, real-world solutions. The deliverable details the strategic and operational elements required to ensure long-term value generation from the project's Key Exploitable Results (KERs), including IPR protection, commercialization pathways, stakeholder targeting, and market readiness planning.

Key highlights include:

- A phased exploitation roadmap for institutional adoption and market uptake,
- Clear articulation of commercial, scientific, and societal value from the KERs,
- Defined IPR management strategy including copyright, trade secrets, and open licensing,
- Identification of customer segments across public, private, and research sectors,
- Planned use of Horizon Results Booster services to support strategic commercialization.

It integrates input from all consortium members and includes a forward-looking roadmap that positions THEIA's platform and services for institutional adoption, private sector uptake, and societal impact. The plan is fully aligned with Horizon Europe requirements and incorporates mechanisms for ensuring ethical, secure, and legally compliant exploitation of advanced geospatial intelligence technologies.

The current revised version (v1.1) incorporates the reviewers' comments as presented in the General Project Review Consolidated Report (HE).

List of Tables

List of Acronyms / Abbreviations

Table 1. List of Acronyms/Abbreviations

Acronym / Abbreviation	Explanation
AI	Artificial Intelligence
AMSS	AutoMated Surveillance System
CA	Consortium Agreement
API	Application Programming Interface
CCM	Copernicus Contributing Missions
CSDP	Common Security and Defence Policy
EC	European Commission
ECHO	European Civil Protection and Humanitarian Aid Operations
EMSA	European Maritime Safety Agency
EO	Earth Observation
EU	European Union
EUI-DPR	European Union Institutions Data Protection Regulation
FTO	Freedom to Operate
Frontex	European Border and Coast Guard Agency
GA	Grant Agreement
GDPR	General Data Protection Regulation
GeoAI	Geospatial Artificial Intelligence
HRB	Horizon Results Booster
IPR	Intellectual Property Rights
KER	Key Exploitable Result
MIT	Massachusetts Institute of Technology (license)
ML	Machine Learning
NATO	North Atlantic Treaty Organization
OSINT	Open Source Intelligence
R&D	Research&Development
RF	Radio Frequency
SaaS	Software as a Service
SATCEN	European Union Satellite Centre
SWOT	Strengths, Weaknesses, Opportunities, Threats

TRL	Technology Readiness Level
UAV	Unmanned Aerial Vehicle
UN	United Nations
VHR	Very High Resolution
WP	Work Package

1. Introduction

Addressing critical challenges such as population displacement due to conflicts, exacerbated by factors like climate change, extreme weather events, food shortages, and poverty, remains paramount. The implementation of THEIA, integrating data fusion, processing, and analysis, particularly leveraging Geospatial Artificial Intelligence (GeoAI) and Machine Learning, is poised to enhance the efficacy of existing services significantly. Through the amalgamation of multi-temporal data and diverse datasets, THEIA empowers better decision-making and adapts to evolving policy and user needs. This technological advancement, bolstered by GeoAI, augments detection capabilities and ensures timely access to crucial information, bridging the gap between capabilities and stringent security demands.

By integrating non-space data and end-user intelligence, THEIA's supply chains add value not only at the operational level but also at regional and local levels, facilitating improved coordination. Furthermore, THEIA catalyses fostering EU-independent capabilities and technologies, thereby bolstering the European space ecosystem's consolidation and ensuring the sustainable coexistence of legacy and New-Space solutions. Its services cater to a wide array of end-users, including EU agencies such as SATCEN and Frontex, Member State Ministries of Defence, Intelligence Agencies, Police Forces, NATO, and potentially Extra-EU National and Supranational Entities such as the United Nations.

This document represents the first version of the report outlining all exploitation activities and IPR-related issues.

The WP13 consists of the following Tasks:

- Task 13.1: Dissemination and high-impact collateral plan (Leader: ICCS)
- **Task 13.2: Initial exploitation plans and activities preparation (Leader: GSH)**
- **Task 13.3: Identification of IPR issues and patentable content (Leader: MPL)**

This document is one of the outputs of **Task 13.2** and **Task 13.3** and represents the third deliverable of WP13.

The following sub-sections present the scope and objectives, as well as the structure of the document.

1.1 Purpose and scope of the deliverable

The purpose of this deliverable is to present the first approach of exploitation strategy for the THEIA project, including a plan for protecting and commercializing the project's KERs. It defines the consortium's joint and individual exploitation ambitions, and intellectual property (IPR) management policies.

The scope of this report is to define the project's initial exploitation framework, including the overall strategy, roadmap, and phases of market deployment. It encompasses the identification of target customer segments. Furthermore, it details the IPR protection strategies, results ownership arrangements, and the integration of Horizon Results Booster (HRB) services to support and enhance the exploitation process.

This deliverable marks the first version of the exploitation strategy and will be updated in D13.5 which is foreseen to be delivered by month 15, based on the maturity of THEIA solutions (expected TRL levels), patentability assessments, and evolving partner-specific business models.

1.2 Structure of the deliverable

This document consists of the following chapters:

- Executive Summary – Provides a concise overview of the deliverable's context, purpose, and key findings.
- **Chapter 1**: Introduction – Outlines the objectives, purpose, scope, and structure of the deliverable, along with relevant references.
- **Chapter 2**: THEIA Exploitation Strategy – Describes the project's overarching approach to turning KERs into sustainable, market-ready solutions. It includes scientific and commercial exploitation routes, stakeholder engagement plans, and exploitation phases.
- **Chapter 3**: Strategic Analysis – Identifies the global and European challenges THEIA aims to address, including climate-induced displacement, hybrid threats, and data fragmentation, and shows how the project's technologies respond to these needs.
- **Chapter 4**: THEIA KERs – Presents the primary technical outputs of the project, along with their exploitation plans, target users, TRLs, IPR strategies, and legal/ethical considerations.
- **Chapter 5**: Customer Segments – Defines and analyses the key stakeholder groups for THEIA, including public authorities, private companies, academic institutions, NGOs, and operational end users, detailing their specific needs and expected benefits.
- **Chapter 6**: IPR Strategy – Explains how background and project-generated intellectual property will be protected, accessed, shared, and exploited by partners, including copyright, patent, trade secret, and licensing mechanisms.
- **Chapter 7**: Distribution Channels – Describes how THEIA's solutions will be delivered to the market, through direct institutional sales, system integrators, commercial partnerships, technology marketplaces, and academic dissemination.
- **Chapter 8**: SWOT Analysis – Offers a comprehensive assessment of the project's internal strengths and weaknesses, and external opportunities and threats, to inform risk mitigation and strategic alignment.

- **Chapter 9:** Horizon Results Booster Services – Describes how the consortium will leverage EU support services to strengthen its exploitation strategy and commercial readiness, including expert coaching, risk analysis, and business planning

1.3 References

- Project GA with No. 101190051
- THEIA Partners CA
- “Your Guide to Intellectual Property Management in Horizon Europe”, EU IP Helpdesk
- General Project Review Consolidated Report (HE)

2. THEIA Exploitation Strategy

THEIA's exploitation strategy is designed to translate its advanced technologies, integrated services, and research outputs into sustainable, market-ready solutions that deliver long-term value across security, humanitarian, environmental, and policy sectors. This strategy goes beyond fulfilling the immediate objectives of the project; it focuses on ensuring the long-term viability, scalability, and socio-economic impact of THEIA's results well beyond the project lifecycle.

THEIA operates at the intersection of artificial intelligence, multi-source EO, crowdsource data and a GeoAI platform. Its exploitation strategy is therefore tailored to align with the operational needs of institutional users (e.g., EU agencies, civil protection bodies, and humanitarian organizations) as well as commercial players in EO, security, and crisis monitoring markets.

The approach includes a practical roadmap to commercialization, featuring appropriate business models, public-private partnerships, and post-project governance mechanisms. This roadmap ensures that THEIA's tools, ranging from the Integrated Platform and GeoAI Toolkit to the AMSS, are positioned for uptake in policy, operational, and commercial ecosystems.

Given the interdisciplinary nature of the consortium, strong coordination of exploitation responsibilities is essential. Partners will leverage their respective domain expertise, spanning EO data integration, AI development, security operations, and legal-ethical governance, to drive adoption. Additionally, the consortium's active links to government agencies (e.g., SATCEN, Frontex), EU institutions, private industry leaders, and academic networks provide a strong foundation for accelerating product-market fit, navigating regulatory challenges, and embedding THEIA's results into real-world policies and operations.

2.1 Exploitation Routes

THEIA will generate a diverse set of high-value outcomes, scientific, technical, and operational that hold strong potential for commercialization across different sectors. These KERs will be advanced through three core channels: scientific dissemination, commercial application, and collaboration with networks, associations, and policy initiatives.

2.1.1 Scientific Exploitation

THEIA will generate significant value for the scientific community, particularly in the fields of geospatial intelligence, OSINT analytics, and displacement monitoring. The scientific exploitation efforts will include:

- Publishing high-impact, peer-reviewed research on the development and evaluation of key technologies, such as the GeoAI Analytics Toolkit, data fusion pipeline, and AMSS modules.
- Engaging research institutions and universities in the continued development, testing, and adaptation of THEIA components, including open-source AI models, system integration frameworks, and satellite data fusion techniques.
- Promoting interdisciplinary academic innovation by sharing datasets (e.g., multi-source EO, RF, crowdsourced data), methodologies, and conceptual models under open access or fair-use licensing, where appropriate.
- Organizing and participating in conferences, technical workshops, and clustering events (including Horizon Europe and Copernicus Security Services networks) to stimulate cross-project exchange and increase scientific visibility.
- Producing white papers, technical briefs, and policy-oriented publications to bridge the gap between science, technology, and public policy.

2.1.2 Commercial Exploitation

THEIA aims to position its solutions for direct commercialization commercialisation via licensing models, service subscriptions, and consultancy packages tailored to the operational needs of end-users such as:

- **Public Sector Entities:** Border management authorities, emergency response units, and national crisis coordination centre
- **Private Sector:** EO analytics firms, security infrastructure companies.
- **Multilateral Agencies:** EU institutions, UN bodies, and humanitarian organizations with strategic surveillance and monitoring needs.

Key commercial actions include (but are not limited to):

- Running focused marketing campaigns and live demonstrations to showcase THEIA's capabilities.
- Building strategic partnerships with technology providers and distributors to facilitate market entry.
- Designing and delivering specialized training programs to help institutional clients integrate and make full use of THEIA's solutions.
- Crafting clear value propositions and identifying unique selling points tailored to specific market sectors and regional needs.

2.1.3 Networks, Associations, Initiatives, Policy Groups

THEIA's consortium members are deeply involved in several influential European networks and initiatives. These relationships will be leveraged to broaden the reach of THEIA's innovations, align with regulatory requirements, and explore new collaborative business models.

Examples of intended synergies and contributions include (but are not limited to):

- Promoting cross-utilization of AI-based object detection and anomaly prediction models in maritime and terrestrial domains.
- Engaging with European security policy forums to propose frameworks for privacy-compliant surveillance and responsible AI deployment.

2.1.4 Linkage to GA Deliverables

The exploitation strategy outlined in this deliverable is closely aligned with the THEIA GA and is directly supported by key deliverables and milestones under WP13 as well as strategic contributions from other technical and coordination work packages. These references help contextualize the exploitation roadmap in terms of progress tracking and ensure coherence with the overall project implementation plan.

Relevant Deliverables:

- D13.1 – Website and Project Logo [M2]: establishes the project's online presence and visual identity, supporting brand recognition, stakeholder engagement, and early visibility
- D13.2 –Dissemination and Communication Plan (Version 1/1st-period) [M6]: Provides input and feedback from early communication activities to the target audience.
- D13.3 – Exploitation Plan (Version 1) [(M6]: This deliverable, provides the first structured roadmap for KER valorisation, IP protection, stakeholder targeting, and market alignment.
- Deliverable D13.4 – Dissemination and Communication Report (Version 1/1st-period results) [M15]: this deliverable outlines all actions taken regarding communication and dissemination activities of the 1st period.
- D13.5 – Exploitation plan (Version 2) [M15]: This deliverable is an intermediate version (2) of the Exploitation Plan.
- Deliverable D14.1 – Dissemination and Communication Plan (Version 2/2nd-period) [M20]: Outlines all updated actions of the dissemination and communication activities.
- D14.2 "Exploitation plan (Version 3/2nd-period results)" [M30]: The D14.2 will be the finalisation of the exploitation strategy of the D13.3 and D13.5.

- Deliverable D14.3 – Dissemination and Communication Report (Version 2/2nd-period results): this deliverable outlines all actions taken regarding communication and dissemination activities of the 2nd period.

2.2 Exploitation Phases

THEIA's exploitation approach is organized into three structured phases that unfold during and beyond the lifecycle of the project. Each phase builds on preceding activities and focuses on different levels of market preparedness.

Phase A: Pre-Marketing and Strategic Mapping

This initial phase focuses on technology identification, stakeholder consultation, and early market exploration. It includes:

- Technology mapping of THEIA's individual components and service architecture.
- Market analysis to identify gaps, customer needs, and benchmarking against existing services.
- Identification of value chains and early adopters across primarily public sector.
- Proposal of initial business model canvases and exploitation routes per partner or KER.

Phase B: Exploitation Ramp-Up

As the THEIA platform matures technically and operationally, this phase targets strategic preparation for commercialisation:

- Assessment and characterisation of KERs in terms of market value, technical readiness, and IPR status.
- Partner-specific and joint exploitation plan drafting, including pre-commercial agreements.
- Clarification of background and foreground intellectual property assets.
- Interoperability and standardization activities to ensure compliance with EU data-sharing and security frameworks.
- Strategic risk and competitor analysis to guide positioning.

Phase C: Market Penetration and Scaling

This final phase will focus on translating THEIA's matured assets into marketable products and services:

- Business scenario definition and value proposition validation with early adopters.

- Refinement of pricing, distribution, and licensing models.
- Communication campaign using digital tools, sector-specific events, and stakeholder briefings.
- Expansion into additional markets through joint exploitation ventures and participation in follow-up EU-funded projects.

2.3 Monetisation Strategies

- THEIA's exploitation framework incorporates multiple monetisation strategies aligned with its value propositions and user segments.
- Revenue models include: subscription-based access to platform services, pay-per-use models for data products or analytics, licensing of software modules, and consultancy services for custom deployments.
- Differentiated pricing strategies will be explored, offering tiered plans for public agencies, commercial users, and research institutions.
- For instance, humanitarian organizations may benefit from subsidized or open-access tiers, while private sector clients may be offered premium analytics through licensing or API access.
- These models will be refined based on market validation, partner input, and piloting during the second phase of the project.

In parallel, a first qualitative cost/benefit perspective is being considered for the main THEIA results. At this stage, this perspective focuses on the expected balance between the effort required for deployment, integration, and maintenance, and the anticipated benefits in terms of improved monitoring capacity, reduction of analytical burden, faster access to actionable information, and better support to institutional decision-making. This initial approach does not yet constitute a full cost/benefit analysis, but it supports the early positioning of the KERs in relation to their expected operational and strategic value and will be extended in the next phase of exploitation planning.

Initial business model considerations have also been introduced in a preliminary manner, reflecting the diversity of THEIA’s target users and exploitable assets. Early analysis indicates that different KERs may follow different uptake logics, including service-based provision, licensing of selected modules, integration into broader institutional environments, and consultancy or support-oriented deployment models. This first framing helps connect the nature of the project results with realistic pathways for their future use and sustainability.

The consortium has also initiated a first internal mapping of partner-specific exploitation interests in relation to the identified KERs. This preliminary positioning reflects each partner's role in the development of the project results, the nature of their contribution, their expected ownership relation, and their potential role in scientific, institutional, or commercial uptake. At this stage, this mapping remains indicative, but it provides an initial basis that will be extended in the next phase through a more detailed elaboration of partner-level exploitation pathways.

3. Strategic Analysis

The growing frequency of armed conflicts, extreme weather events, and large-scale humanitarian crises has significantly increased the need for accurate, ethical, and real-time monitoring of population displacement across and within borders. In this context, THEIA emerges as a high-impact solution, combining multi-source EO, AI-powered risk analytics, and privacy-compliant surveillance capabilities to help authorities and institutions predict, detect, and respond to complex humanitarian and security challenges.

This section outlines the critical operational and policy challenges facing Europe and its partners, and demonstrates how THEIA's modular and interoperable tools are specifically designed to address these challenges through its portfolio of KERs.

3.1 Increasing Environmental and Hybrid Security Threats

THEIA is developed in direct response to the urgent need to monitor population movements resulting from extreme events, including armed conflict, political instability, climate-induced disasters, and socio-economic collapse.

Key challenges in this domain include:

- **Rapidly Evolving Displacement Patterns:** Populations move quickly in response to conflict or environmental pressures. Traditional monitoring systems are often too slow or narrow in scope to detect early signs and predict the movement.
- **Data Scarcity in High-Risk Zones:** Remote, border, or conflict-prone regions often lack reliable, real-time monitoring tools that can inform humanitarian response and security measures.
- **Overlapping Drivers of Migration**: THEIA addresses scenarios where displacement is driven not only by war but by compound risks, such as drought-induced food shortages, floods, or the collapse of infrastructure following the withdrawal of agricultural labour.

  THEIA's Surveillance System (AMSS) and **GeoAI Toolkit** enable early assessment of displacement build-up along borders or in crisis-prone zones by fusing data from **satellite imagery, RF signals, UAV inputs, and OSINT** (social media and open data). This allows for **near-real-time alerts, predictive analytics, and informed humanitarian planning.**

3.2 Information Sharing and Cross-Sector Cooperation

One of the persistent barriers to effective displacement monitoring is the fragmented nature of data environments across EU agencies. THEIA directly addresses this with its Multi-Source Data Fusion capabilities, which are designed to:

- Ingest and harmonize heterogeneous data from Sentinel satellites, various satellites imagery, RF sources and crowdsourced content.
- Enable secure, privacy-compliant data sharing across humanitarian organizations, and EU border authorities.

3.3 Technological Advancements and Capability Gaps

Despite technological advances in EO and AI, many organizations still face barriers to deploying predictive and real-time monitoring solutions. THEIA directly tackles these gaps through the following:

GeoAI Analytics Toolkit: Enables detection of patterns such as gathering of displaced populations, migration corridor formation, and risk heatmapping using AI models trained on EO, RF, and other data.

Crowdsourcing & OSINT Module: Captures early indicators of movement through social media posts, online discussions, and public sentiment shifts, providing a non-traditional but critical layer of situational awareness.

User-Friendly Decision-Support Tools: The THEIA Integrated Platform and AMSS present data in operational dashboards, making advanced analytics accessible for civil protection, humanitarian responders, and institutional planners.

These tools are designed to support non-technical end-users, and will be accompanied by training and capacity-building programs, ensuring adoption is both responsible and effective.

3.4 Surveillance, Detection, and Early Warning Capabilities

Many current surveillance systems remain limited in their ability to provide continuous, real-time insights into population movement and emerging humanitarian crises. Challenges such as incomplete geographic coverage, disjointed sensor networks, and inadequate live data feeds continue to undermine early warning capabilities. THEIA addresses these shortcomings by offering a unified and integrated approach that significantly enhances situational awareness for crisis responders.

Through its **integrated operational platform**, THEIA consolidates data from a wide range of sources, including **UAVs, satellite imaging, RF signals, and ground-based sensors**, all processed using GeoAI and ML. This enables real-time visualisation and monitoring of displacement trends, particularly at border regions or known migration corridors. The platform's **AMSS** supports continuous observation and automated alerting, allowing for early identification of gatherings or movement patterns before they escalate into large-scale humanitarian emergencies.

3.5 Legal, Ethical, and Political Complexities

Deploying surveillance and AI-driven monitoring technologies requires careful navigation of legal, ethical, and political considerations. THEIA integrates a robust ethical framework into every stage of its design and deployment to ensure compliance with European data protection regulation and promote public trust.

One of the cornerstones of this approach is the **Policy and Ethical Guidelines for Displacement Data (KER 7)**, which outline best practices for collecting, processing, and sharing personal and geospatial data in full alignment with **privacy regulations**. These guidelines serve not only as internal standards for the project but also as a model for external stakeholders aiming to adopt similar technologies responsibly.

4. THEIA Key Exploitable Results (KERs)

The THEIA project has generated a first portfolio of KERs that reflect the technological and societal ambition of the initiative. These results encompass data fusion pipelines, AI toolkits, monitoring systems, and legal-ethical frameworks, all aligned with Horizon Europe objectives for sustainable exploitation, IP protection, and public benefit. Each KER is associated with a defined exploitation strategy, TRL, and IPR approach to ensure maximum uptake and impact post-project.

KER 1: THEIA Integrated Platform

Description: A geospatial AI-enabled platform that integrates multi-source data (satellite, UAV, OSINT) for as-close-to-real-time-as-possible, situational awareness and decision support in crisis response.

Lead & Contributors: GSH (lead), CREO, ED Lux; Contributors: C3I, Space-SI, OHB DS, LXS

Expected TRL: 6 (system demo)

Exploitation Type: Commercial & Societal – Offered as a managed service to agencies and authorities.

IPR Strategy: © Consortium – Proprietary software; Open APIs are planned to support interoperability.

Legal / Ethical Considerations: Privacy compliance, secure data exchange, and cross-border data flow management.

KER 2: Multi-Source Data Fusion capabilities

Description: A backend pipeline for ingesting and fusing diverse data streams in real time, including Copernicus Sentinel, various VHR imagery (more focus on VHR, CCM imagery), RF feeds, and crowdsourced data.

Lead & Contributors: CREO, OHB DS, LXS, Space-SI, ED Lux

Expected TRL: 6

Exploitation Type: Commercial – To be integrated into future operational solutions and platforms.

IPR Strategy: © Copyright – Proprietary integration algorithms; trade secrets kept in-house for future commercial offerings; no public release.

Legal / Ethical Considerations: Data provenance, dual-use concerns, integration of third-party feeds.

KER 3: GeoAI Analytics Toolkit

Description: A collection of AI/ML models for automated detection, prediction, and risk assessment, including object identification in imagery, migrant route prediction, and displacement risk analytics.

Leads & Contributors: AIT, ICCS (co-leads); Contributors: Space-SI, OHB DS, ED, GSH, C3I, LXS, SATCEN

Expected TRL: 5/6

Exploitation Type: Research & Commercial – Research outputs will be academically published; some modules are intended for commercial use.

IPR Strategy: © Copyright – Research prototypes to be published; select components open-sourced under MIT license to foster adoption; other parts may be patented pending novelty/FTO analysis.

Legal / Ethical Considerations: Responsible AI, algorithm transparency, and ethical treatment of sensitive data.

KER 4: Surveillance System (AMSS)

Description: A near-real-time surveillance module integrating satellite imagery, UAV data, RF signals, and more to monitor migration routes and issue early displacement warnings.

Leads & Contributors: GSH, SATCEN (joint leads); Contributors: OHB DS, LXS, Space-SI, AIT, C3I

Expected TRL: 6 (pilot demo)

Exploitation Type: Societal & Commercial – To be integrated into operational workflows, especially within SATCEN services.

IPR Strategy: Joint ownership – Combination of results from multiple partners; analytics software © protected; potential patent pending for novel detection methods.

Legal / Ethical Considerations: Surveillance ethics, operational data fusion, institutional adoption frameworks.

KER 5: Secure Data Exchange Framework

Description: A cybersecurity framework supporting secure, privacy-compliant sharing and access control across the THEIA platform, including encryption.

Lead & Contributors: C3I (lead), GSH

Expected TRL: 7

Exploitation Type: Commercial – Integrated as a security module in platform-based solutions.

IPR Strategy: © Copyright – Proprietary modules; no public release of sensitive implementation details; potential trademark registration under evaluation.

Legal / Ethical Considerations: Cybersecurity, privacy, user access governance.

KER 6: Crowdsourcing & OSINT Analytics Module

Description: Tools for harvesting and analysing crowd-sourced content, social media, and OSINT to extract alerts, and situational signals relevant to crises.

Lead & Contributors: ED Lux (lead), WTOC

Expected TRL: 6

Exploitation Type: Commercial & Academic – Integrated into THEIA platform; reports and analytical outputs disseminated under open license.

IPR Strategy: © Copyright – Software owned by ED Lux; WTOC will share analytic insights in reports under open license. No patent foreseen, as the innovation is service-oriented and data-driven.

Legal / Ethical Considerations: OSINT ethics, misinformation detection, and regulatory use of public content.

KER 7: Policy and Ethical Guidelines for Displacement Data

Description: Best-practice frameworks ensuring the legal and ethical use of geospatial and personal data in displacement monitoring and crisis analysis, aligned with privacy and broader human rights standards.

Lead & Contributors: MPL (lead), GSH

Expected TRL: n/a (non-technical output)

Exploitation Type: Societal & Academic – Intended for policy uptake, capacity building, and academic dissemination.

IPR Strategy: © Copyright – Public deliverable to be openly published; free use as a guideline document.

Legal / Ethical Considerations: Personal data protection, AI ethics, humanitarian law compliance, and policy alignment.

Preliminary outcomes and impact

In addition to the expected TRL progression of the identified KERs, the consortium is also introducing an initial approach to the short-term effects and longer-term impact of the project results. At this stage, short-term outcomes are understood as the first operational, scientific, or organisational effects that may emerge from the uptake of THEIA results, while long-term impact refers to the broader contribution of these results to EU crisis monitoring, institutional preparedness, and the use of secure and ethically compliant GeoAI-enabled services.

In addition, a first indicative basis for monitoring outcomes and impact is also introduced at this stage. Preliminary dimensions considered relevant include the maturity and validation level of the KERs, their relevance to identified user environments, their expected usability within operational workflows, and their contribution to scientific, societal, and commercial value creation. This first framing provides an initial basis that will be further extended through the next phase of exploitation planning, as the maturity, positioning, and uptake potential of the KERs become clearer in order to support a more structured assessment of exploitation progress.

5. Customer Segments

THEIA's exploitation strategy targets three primary customer segments: the public sector, private sector, and academic/research communities. Each group presents distinct needs, expectations, and opportunities for value creation. Understanding these segments enables THEIA to tailor its services, support effective user engagement, and align exploitation pathways with real-world demand.

1. Public Sector

Key Stakeholders:

The public sector target group includes EU policymakers, national or public authorities, and international organisations involved in crisis coordination and humanitarian response.

Needs & Expectations:

This group requires timely, exclusive, and resilient access to crisis-related information to support rapid and informed decision-making. Their core needs focus on tools for enhanced border and maritime surveillance, early warning systems, and situational awareness services that are aligned with European security priorities. Given the rise of complex crises combined with climate-induced displacement, public sector actors need monitoring systems capable of tracking population movements in near real-time, anticipating humanitarian needs, and informing security and migration policy. These users also expect strict privacy compliance, cross-border legal governance, and access to thematic maps, predictive dashboards, and user-ready insights that improve crisis preparedness and response mechanisms.

2. Private Sector

Key Stakeholders:

The private sector group consists of EO and satellite data service providers and companies specialising in security and crisis monitoring.

Needs & Expectations:

Private stakeholders are looking for commercial opportunities driven by access to innovative monitoring technologies. This includes the use of RF analytics, thermal imaging, VHR satellite imagery, and secure data handling solutions. These actors are particularly interested in proprietary tools and trade-secret-protected data integration frameworks that can be embedded into scalable platforms or offered as value-added services. THEIA to enable new business models in the EO domain, especially in applications for displacement forecasting and near-real-time crisis detection. Cybersecure frameworks for data exchange, along with interoperable data ingestion systems, are critical for client assurance and regulatory compliance. Ultimately, the private sector

expects THEIA to generate new markets and technologies that enhance competitiveness and sustainability in the security monitoring landscape.

3. Academic & Research Communities

Key Stakeholders:

This group includes universities, research institutes, and scientific communities working in the domains of EO, AI, crisis response, and data science.

Needs & Expectations:

Researchers require access to high-quality, multi-modal datasets, including EO imagery, and open-source intelligence (OSINT), to conduct cutting-edge scientific work. They are also looking for opportunities to collaborate on advanced ML and GeoAI models tailored to security and displacement monitoring. THEIA offers a platform for scientific innovation, encouraging research publications, validation of novel algorithms, and benchmarking of ethical and technical approaches. Academics also benefit from participation in clustering activities with other EU-funded initiatives, contributing to the broader advancement of European research in security, space, and geospatial intelligence.

Each customer segment presents unique monetisation opportunities. For example, the public sector (e.g., EU agencies, border authorities) may be served through framework agreements, grants, or subsidised licensing. Private sector stakeholders, such as security consultancies or insurance providers, may support premium subscriptions or data-as-a-service models. Academic users may be addressed via freemium or institutional licensing options.

The consortium has also initiated a first internal mapping of partner-specific exploitation interests in relation to the identified KERs. This preliminary positioning reflects each partner's role in the development of the project results, the nature of their contribution, their ownership expectations, and their capacity to support scientific, institutional, or commercial uptake. While this initial mapping remains at a strategic level in the present version, it already supports a more structured understanding of how the consortium's individual and joint exploitation pathways may evolve.

6. IPR Strategy

6.1 IPR Management During and After the Project

Effective management of IPR is critical to enable the above exploitation activities. THEIA's IPR management approach is based on the definitions and principles laid out in the GA and the CA, ensuring that all partners have clarity on ownership and usage rights of both background knowledge and results. The following key aspects govern IPR management in THEIA:

- **Background IP:** Each partner has identified any **background IP** (pre-existing know-how, data, software, patents, etc.) that they are contributing to the project and that is needed for carrying out project tasks. Such background assets (for example, CREO's data federation technology or ICCS's existing AI models) remain the property of the original partner. CA provisions ensure that partners give each other **necessary access rights to background** on a **royalty-free basis for research use within the project**. This enables the team to integrate existing technologies without IP roadblocks. Any restrictions or special conditions on background use have been documented upfront to avoid conflicts. Throughout the project, if new background needs arise, they will be handled through the agreed procedures (amending the background list or negotiating access as needed).
- **Results Ownership (Foreground): Foreground IP** (project results) is owned by the partner(s) generating the result, in accordance with EU rules. Where a result is created by a single partner (e.g. a specific software module or algorithm), that partner is the sole owner. For **joint results** involving multiple contributors – for instance, the integrated platform or the AMSS which integrate components from several partners – **joint ownership** arrangements are in place. Joint owners will either establish a specific joint ownership agreement (defining shares, licensing rights, revenue split, etc.) or, by default, will **each have equal undivided shares** of the result and the right to use it (with fairness obligations to compensate co-owners if exploiting commercially). The CA outlines default joint ownership provisions aligned with Horizon Europe Model Grant rules, ensuring no result is left in legal uncertainty. All partners have agreed to **promptly disclose any significant result** they produce to the consortium so that ownership can be correctly attributed and protection steps taken in time.
- **Access Rights during the Project:** To achieve the project objectives, partners grant each other **access rights** to both background and foreground as needed for research and development tasks. These rights are provided on a royalty-free basis for project implementation. For example, Space-SI grants access to its NEMO-HD imagery; ICCS and AIT share their intermediate AI models with other partners for integration; C3I provides access to its security tools for platform testing. This collaborative sharing is fundamental to building the integrated THEIA system. All access is managed under confidentiality and

with respect for the owners' IP (only used for the agreed tasks). If a partner needs to extend use of another's asset beyond the project scope, this would be separately negotiated.

- **Access Rights for Exploitation:** After the project, partners may also need access to each other's results to exploit their own outcomes (for research or commercial use). The consortium follows standard Horizon Europe practices: **royalty-free access for internal research and education**, and **fair and reasonable conditions for commercial exploitation** of a needed result owned by another partner, unless otherwise agreed. For instance, if GSH (platform owner) needs continued use of ICCS's analytics algorithms to offer the service to clients, or if ICCS wishes to use the integrated platform to run further experiments – such cases will be accommodated through bilateral agreements consistent with the CA terms. This ensures that **no partner is hindered from exploiting its own results** due to lack of IP access from another, while also protecting the legitimate interests of the IP owners.
- **Protection of Results (IPR Protection Routes):** Each partner must examine the possibility of protecting their results that show potential for commercial or industrial exploitation. The consortium is committed to adequately **protecting all valuable results** for an appropriate duration and scope, provided that protection is **feasible, reasonable, and justified** given the nature of the result and the exploitation strategy. A range of **IPR protection routes** are being employed, tailored to each KER's characteristics:
    - *Copyright:* Software and documentation developed in THEIA are automatically protected by copyright. For most software results (e.g. the platform code, data fusion tools, AI models), copyright will be the primary form of protection. The owners will decide on the licensing model: some software will remain **proprietary (closed-source)** with all rights reserved by the consortium or owner (appropriate when commercialization as a product/service is intended), whereas other components may be released under **open-source licenses** (e.g. MIT or EU Public License) to encourage wide uptake and standardization. The choice is made case-by-case, balancing market advantages and the benefits of openness. We have indicated initial plans (e.g. an MIT license is considered for parts of the GeoAI toolkit to foster adoption by researchers, while core platform code will likely remain closed-source). All open-source releases will be reviewed to avoid inadvertently disclosing sensitive or high-value IP. In regards to open access to scientific publications as well as research data management, the beneficiaries must comply with the "Specific Rules", which are pertained in the Annex 5 of the Grant Agreement.

- *Patents:* If any project invention meets the criteria (novelty, inventiveness, industrial applicability) and has clear market potential, the relevant partner(s) will pursue patent protection. Patents would grant the right to exclude others from exploiting the invention and thus provide a competitive edge. As of this first version of the plan, no specific result is definitively slated for patenting (the geospatial analytics methods are largely based on research and existing algorithms). However, the consortium is monitoring developments – for example, if the **vessel detection algorithm** or **data fusion technique** developed is truly unique and valuable, a patent application may be filed before public disclosure. Partners have been briefed that patenting is a **means to protect commercial exploitation**, not an end in itself and must be weighed against other options like trade secrets. Any patent filings will be coordinated so as not to violate any partner's background IP and to ensure inventorship is correctly attributed.
- *Trade Secrets:* In cases where an invention or know-how is not easily patentable or where public disclosure is not desirable, partners may opt for **trade secret** protection. This involves keeping the information confidential (through internal measures and agreements) to maintain a competitive advantage. For instance, certain data fusion algorithms or system configurations might be kept as confidential know-how within a company (especially if they are complex to reverse-engineer). Trade secrets can effectively protect IP without time limit, provided secrecy is maintained. The consortium has in place policies (e.g. internal confidentiality agreements, secure repositories) to guard any such proprietary know-how. Choosing trade secret vs. patent is done carefully: while trade secrets avoid disclosure and registration costs, they offer no protection if the secret is independently discovered or leaked. Thus, the decision hinges on whether the knowledge can be kept secret and how critical it is to competitive advantage.
- *Trademarks and Designs:* As THEIA moves towards deployment, it should be considered protecting the **branding** and interface designs of key outputs. For example, the name of the platform or specific modules could be trademarked to secure brand identity in the market. Any unique visual interfaces or logos may be considered for design rights or trademarks as well. While these IP forms do not protect functionality, they are important for commercial exploitation in distinguishing the project's solutions in the marketplace.
- *Licensing Agreements:* Beyond protection, a crucial aspect is how the IP will be **licensed or made available** to users. The exploitation plan includes developing suitable licensing models for each result in line with its IPR strategy. Some results will be **licensed to end-users or clients** (e.g. platform as a service under

subscription, or software under a fee-based license), while others will be **made available freely** (e.g. open data or open-source tools) to stimulate adoption. For joint results, any licensing to third parties will be done with consent of all co-owners, and any revenue sharing will follow the terms agreed in the joint ownership or consortium agreements. The partners will ensure that any exploitation or licensing of results **acknowledges EU funding** and respects obligations to the EU (such as reporting exploitation outcomes in project reports and beyond).

- **Post-Project Exploitation and Sustainability:** IPR management extends beyond the project's end date. Each partner is committed to **continuing exploitation of results after project completion**, using all the above mechanisms to achieve sustainability. This includes seeking follow-up funding or investment to bring results from the achieved TRLs to full market readiness (e.g. moving from TRL6 prototype to TRL8+ operational system), engaging in standardization or certification processes if relevant, and maintaining the collaborative relationships formed during THEIA for joint exploitation opportunities. The consortium will monitor and report exploitation progress for several years post-project, as per EC guidelines, ensuring that the knowledge generated does translate into actual impact. If any partner decides not to pursue further use of a particular result, the CA provides provisions (in line with Horizon Europe rules) for possibly transferring the ownership or offering licenses to other interested partners or third parties, so that valuable IP does not remain unutilized. In summary, the IPR management strategy put in place, from careful identification of background, through protection of new results, to clear frameworks for access and ownership, underpins the successful exploitation of THEIA outcomes and safeguards the interests of all participants. It creates a **structured yet flexible framework** where innovation can be protected and shared appropriately, conflicts over IP are avoided or resolved, and each result can find the most suitable path to real-world application.
- Inclusion of Granting Authority's Rights: In accordance with **Article 16.3 of the GA**, the granting authority (EC or its delegated Agency) retains the **right to use the materials, documents, and information** produced within the scope of the action for **its own policy, information, communication, dissemination, and publicity purposes**, provided that this does not affect the consortium's legitimate interests. This includes rights to reproduce, use, and publicly disseminate project results and related outputs (such as public deliverables, publications, and promotional material) that are submitted through the Funding & Tenders Portal or communicated by the beneficiaries. The consortium recognises this right and commits to providing such outputs in formats and under conditions that facilitate appropriate reuse by the granting authority, subject to

confidentiality, security, and personal data protection considerations. This right exists independently of the exploitation and protection measures defined for each KER.

Overall, this combined exploitation and IPR plan ensures that THEIA's innovations are not only developed within the project but are primed for uptake thereafter. It balances openness and protection – leveraging open science where it accelerates impact and securing intellectual property where it underpins competitive advantage, in line with European best practices for research exploitation. The plan will be revisited and refined in the next iterations (Deliverables D13.5 and D14.2) as the project matures, to update the status of each KER (e.g. actual TRLs reached, new IP filings, license deals, etc.) and to adjust strategies in response to any new IPR issues or exploitation opportunities that arise by M15 and M30. This living strategy guarantees that by the end of THEIA, all partners are equipped and aligned to carry forward the results – whether through commercial ventures, continued research, or public-sector deployment – thus maximizing the project's overall impact and return on investment for European society.

6.2 Assessment of Patentability and Protection Planning

In line with Article 16.3 of the GA, the consortium is committed to examining the possibility of protecting results through patents or other appropriate means where commercial or industrial exploitation is feasible. While no definitive patent applications have been filed at this stage (M6), several technical developments within THEIA, including the GeoAI analytics toolkit, multi-source data fusion architecture, and components of the AMSS, are considered potentially patentable, subject to novelty and inventiveness assessments. Each beneficiary generating such results will be responsible for conducting an internal patentability evaluation, including freedom-to-operate (FTO) and prior art searches. The consortium will coordinate to ensure that any results with potential for patent protection are adequately safeguarded before public disclosure, in line with Horizon Europe obligations. A preliminary screening for patentable results is scheduled between M12 and M15, and outcomes will be reflected in Deliverable D13.5. This proactive approach ensures that valuable innovations developed in THEIA are not only protected but also positioned for sustainable exploitation beyond the project.

7. Distribution Channels for THEIA Project

For THEIA to achieve meaningful market penetration and establish itself as a leading provider of security and population displacement monitoring technologies, a multi-channel, stakeholder-specific distribution strategy is essential. This approach maximises impact across public, private, and academic sectors while ensuring adoption of THEIA's KERs within operational environments.

1. Direct Engagement with Government and Crisis Management Authorities

THEIA places a strong emphasis on direct engagement with government agencies, and defence organisations at both the national and EU levels. These entities are directly responsible for border surveillance, emergency coordination, humanitarian response, and strategic security planning.

THEIA's solutions—such as the Integrated Platform, the AMSS and the GeoAI Toolkit—are highly applicable in real-time monitoring of cross-border movements and situational awareness. Direct sales efforts will include participation in public tenders, procurement frameworks, and joint pilot deployments (e.g., through SATCEN or Frontex). Engagement at policy and security forums will ensure alignment with emerging legislative and operational needs.

2. Partnerships with System Integrators and Security Solution Providers

Collaborating with system integrators and large-scale solution providers in the EO, defence, and surveillance sectors offers a valuable path to scale. THEIA's architecture makes it well-suited for integration into broader platforms (e.g., command-and-control systems, maritime surveillance platforms, smart border technologies).

Partnerships allow THEIA components, like the Data Fusion capabilities, to be embedded in comprehensive offerings deployed by major aerospace and defence vendors. This also accelerates THEIA's entry into existing operational infrastructures without needing to build standalone adoption pathways.

3. Institutional Collaboration with EU and International Bodies

THEIA is inherently aligned with the missions of EU and international institutions, including Frontex, EMSA, SATCEN, ECHO, NATO, or the UN. These organisations are key consumers of integrated displacement monitoring systems, and multi-source situational awareness tools.

By engaging through Horizon Europe and CSDP frameworks, participating in joint capability-building programs, and contributing to institutional pilot projects, THEIA strengthens its presence as a strategic security and humanitarian partner. Its Policy and Ethical Guidelines on Displacement Data also enhance the project's appeal to governance-focused institutions seeking legal-compliant innovation.

4. Presence at Industry Conferences and Exhibitions

THEIA will maintain a strong presence at relevant defence, EO, AI, and crisis management events, and Copernicus Security Services User Forums. These events offer opportunities to:

- Demonstrate core technologies like the THEIA Platform, AMSS, and GeoAI models
- Engage with high-level stakeholders and operational users
- Track emerging trends and security requirements

Participation supports brand visibility and fosters cross-sector partnerships with both public-sector actors and commercial vendors.

5. Collaboration with Research Institutions and Academia

The success and evolution of THEIA depend on continuous innovation and validation through partnerships with universities and research centres. Participation in joint research initiatives, academic dissemination, and scientific benchmarking will ensure THEIA stays at the forefront of GeoAI, multi-sensor data fusion, and ethical surveillance practices.

Distribution channels play a complementary role not only in reaching potential users but also in supporting monetisation. Direct engagement with institutional users enables monetisation through framework contracts, pilot deployments, or consultancy-based service agreements. Participation in innovation ecosystems and partnerships with national authorities supports channel development for pay-per-use analytics and licensing of THEIA modules.

Online distribution mechanisms, such as API-based data services and web platform access, are particularly suitable for subscription-based or usage-based models. These allow scalable delivery of THEIA services while enabling pricing levels based on service features as for example, basic access to core analytics versus premium services offering advanced dashboards, predictive insights, or customizable reporting.

For selected services, licensing agreements or reseller partnerships may also be explored, particularly in collaboration with private sector stakeholders in the EO and security monitoring domains.

These monetisation pathways will be further refined based on piloting results, stakeholder feedback, and performance across each distribution channel, in alignment with THEIA's roadmap toward long-term sustainability.

Spin-Off Product Opportunities

THEIA's technological innovations support the potential development of targeted spin-off products that could sustain and scale impact beyond the project's lifespan. Identified opportunities include:

- Standalone GeoAI Analytics Software: A modular tool enabling third parties to integrate THEIA's AI capabilities with their own geospatial datasets.
- Real-time OSINT & Crowdsourcing Platform: An independent service aggregating publicly available social and crowd-sourced data streams for humanitarian or situational awareness uses.
- Secure Data Exchange SaaS: A software-as-a-service solution designed to support compliant, encrypted data exchange among partners, suitable for crisis zones.
- UAV and Satellite Integration Services: Custom deployment packages for combining drone imagery with satellite-based analytics for displacement monitoring.

8. SWOT Analysis for THEIA Project

A comprehensive SWOT analysis helps evaluate THEIA's internal strengths and weaknesses alongside the external opportunities and threats that may influence the successful exploitation of its KERs. This analysis ensures proactive risk mitigation and informed strategic planning for long-term sustainability.

Strengths

THEIA has several intrinsic strengths that position it as a high-impact, next-generation solution for **population displacement monitoring and border security**.

- **Multimodal Data Fusion capabilities**

  THEIA integrates diverse data sources (satellite imagery, RF signals, UAV data, OSINT, thermal data), enabling a comprehensive operational picture. The backend fusion service is proprietary, real-time, and scalable.

- **Advanced GeoAI capabilities**

With ML models tailored to migration pattern analysis, and object detection THEIA brings cutting-edge intelligence to security, humanitarian, and civil protection domains.

- **Strong Interdisciplinary Consortium**

  The project benefits from a collaboration between EO experts, AI researchers, and institutional partners like SATCEN. This breadth ensures domain-specific excellence and real-world applicability.

- **Ethical and Legal Compliance by Design**

  THEIA includes privacy-aligned data handling, ethical AI implementation, and policy frameworks for displacement data, addressing both regulatory requirements and societal trust.

Weaknesses

Despite its innovation, THEIA faces internal challenges typical of high-complexity, research-led initiatives transitioning toward commercial deployment.

- **High Development and Operational Complexity**

  Integration of EO, RF, and social media data at scale involves high computational costs, requiring robust cloud infrastructure and R&D investments.

- **Integration Challenges with Legacy Systems**

  Deployment across diverse governmental and defence systems may face hurdles due to technical incompatibilities or institutional inertia.

- **Dependency on Institutional Procurement Channels**

  While aligned with EU priorities, THEIA's exploitation model is heavily reliant on public-sector uptake, making it vulnerable to shifting priorities and funding delays.

Opportunities

The evolving geopolitical and humanitarian landscape creates fertile ground for THEIA's exploitation, both within and beyond the EU.

- **Surging Demand for Humanitarian and Border Monitoring Solutions**

  Conflicts, climate crises, and migration pressures are driving interest in scalable, ethical monitoring systems that THEIA is uniquely positioned to provide.

- **EU and International Institutional Engagement**

  Alignment with the goals of Frontex, EMSA, SATCEN, and Horizon Europe creates opportunities for deployment in pilot programs, framework contracts, and cross-border surveillance missions.

- **Emerging Non-EU Markets in Security and Crisis Intelligence**

  Markets in the Middle East, Sub-Saharan Africa, North America, and Asia-Pacific are actively investing in technologies for displacement forecasting, and border surveillance.

- **Cross-Sector Technology Repurposing**

  THEIA's components (e.g., AMSS) can be adapted for non-security domains such as natural disaster response, infrastructure protection, climate change impact assessments, and environmental monitoring.

- **Revenue generation through diversified monetization models targeting public and private sectors:**
  THEIA's flexible service offerings and multiple distribution channels create opportunities to generate sustainable income through subscriptions, licensing, and consultancy tailored to the needs of institutional and commercial users.

Threats

Several external risks could limit THEIA's reach or delay adoption, especially in sensitive operational environments.

- **Geopolitical Fragmentation and Restricted Cooperation**

  Sanctions or export restrictions, may limit THEIA's market access in key regions or prevent institutional collaborations.

- **Rapid Technological Turnover in AI and EO Sectors**

  Intense competition, particularly from private sector platforms with greater agility, could shorten THEIA's innovation lead time if not supported by continuous updates and agile road mapping.

- **Regulatory Complexity and Data Sovereignty Issues**

  Data-sharing restrictions, cybersecurity compliance requirements, and variations in privacy legislation (e.g., outside GDPR and EUI-DPR jurisdictions) may restrict cross-border deployments.

- **Public Perception and Ethical Concerns**

  Growing societal concern around AI, surveillance, and displacement tracking could lead to resistance or reputational risks if communication and ethical safeguards are not transparent and proactive.

- **Risk of poor monetization strategy alignment with user expectations or procurement constraints:**

  If pricing structures or commercialization models are not well-matched to user procurement processes or perceived value, adoption of THEIA services may be limited, undermining long-term sustainability.

9. Horizon Results Booster Services

The HRB is a European Commission initiative designed to maximize the exploitation potential of EU-funded projects by providing expert support in bringing research results closer to market deployment. For the THEIA Project, this initiative presents a valuable opportunity to accelerate the commercialization of its KERs and strengthen its overall exploitation strategy.

Module C: Assistance to Improve the Exploitation Strategy

This module is specifically tailored for projects seeking to refine their exploitation approaches and ensure market readiness of their research outputs. Through this service, THEIA will benefit from:

- Expert Review of Exploitation Plans: Evaluation of existing exploitation strategies to identify gaps and improvement areas.
- Identification of Exploitation Paths: Definition of the most viable pathways for commercializing KERs, such as licensing, joint ventures, start-ups, or direct industrial adoption.
- Stakeholder and Value Chain Mapping: Identification of key market players, potential customers, and industrial partners who can facilitate market entry.
- Exploitation Risk Analysis: Assessment of potential risks related to market dynamics, IPR, and legal or regulatory constraints.
- Actionable Roadmap: Development of a clear roadmap outlining the steps required to advance from research to market uptake.

This structured approach will ensure that THEIA's outcomes are not only technically viable but also market-ready, maximizing the chances of successful exploitation.

How These Services Will Support THEIA

Utilizing these Horizon Results Booster services will significantly enhance THEIA's ability to convert its research results into practical, marketable solutions. Module C will provide the consortium with a critical external perspective on its exploitation strategy, ensuring that no opportunities are overlooked and that potential risks are mitigated early. Meanwhile, the Business Plan Development service will equip THEIA with professionally developed business plans that are essential for engaging industry stakeholders, attracting investment, and pursuing market entry.

In addition to supporting exploitation planning and stakeholder engagement, the HRB services are being strategically leveraged to validate THEIA's monetisation models and support the development of a realistic business plan. This includes assessing the market viability of proposed

revenue models (e.g., subscription, pay-per-use, licensing), aligning pricing strategies with user expectations, and identifying the most commercially promising distribution channels. These efforts directly contribute to THEIA's readiness for commercialization, ensuring that selected KERs are not only technically mature but also market-fit and financially sustainable.

The feedback and analytical tools provided through HRB are being used to shape the structure of the final Exploitation plan (D14.2), positioning THEIA to scale beyond the project's lifecycle.

10. Conclusion

The THEIA project represents a major step forward in the development of advanced, AI-enabled geospatial intelligence and displacement monitoring technologies tailored to the evolving needs of security stakeholders. Through its architecture, ethical data governance framework, and strong scientific foundation, THEIA provides integrated tools that address the urgent challenges posed by climate change, geopolitical instability, and irregular migration.

This deliverable has outlined the consortium's structured and strategic exploitation plan, encompassing key commercialization pathways, stakeholder engagement mechanisms, IPR and patent strategies, and sector-specific distribution models. The project's KERs are each backed by tailored exploitation strategies, ensuring readiness for real-world adoption.

Moreover, the document identified key customer segments across the public, private, academic, sectors, aligning THEIA's offerings with their distinct operational requirements. The SWOT analysis highlighted the project's strong technological foundations and consortium expertise, while also acknowledging commercialization and integration challenges that will be addressed through capacity building and targeted partnerships.

Finally, by leveraging the Horizon Results Booster services, THEIA strengthens its potential for post-project sustainability and market uptake. The consortium remains committed to updating and refining the exploitation strategy throughout the project lifecycle, ensuring that the societal, ethical, and economic impact of THEIA extends far beyond its funded duration.

In summary, THEIA is well-positioned to contribute meaningfully to Europe's strategic goals in Copernicus Security Services, offering a future-ready platform with both operational utility and transformative potential.

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