Copernicus

Data and Information Access Service (DIAS)

Industry Information Day

ESA-ESRIN, 20-12-2016
Agenda

Welcome

European Commission Introduction

DIAS Context and Concept

Procurement objectives and requirements

Contract and Special Tender Conditions Highlights

Financial Proposal Highlights

Conclusions
Copernicus Space Component - Status

S1: Radar Mission
A-LAUNCHED 3.04.2014
B-LAUNCHED 25.04.2016

S2: High Resolution Optical Mission
B-LAUNCH Q2-2017
A-LAUNCH Q2-2017
A-LAUNCHED 23.06.2015

S3: Medium Resolution Imaging and Altimetry Mission

S4: Geostationary Atmospheric Chemistry Mission

S5P: Low Earth Orbit Atmospheric Chemistry Precursor Mission

S5: Low Earth Orbit Atmospheric Chemistry Mission

S6 (Jason-CS): Altimetry Mission
LAUNCH Q2-2017
Sentinels Operations

ESA has adopted a modern and dynamic approach to manage the Copernicus Space Component operations

**Objective**: maximise the exploitation of Copernicus data by the broad user community

Approach is based on 4 main pillars

- **Continuous fast paced enhancements process**
  - Use of latest ICT and EO technology drawing from ESA’s own R&D programmes

- **Innovative operations concept**
  - All Sentinel data is systematically acquired, downlinked & processed to quickly generate and disseminate core products

- **Increased industry responsibility**
  - Based on outsourced service-oriented contracts: high-end performance at reduced operations costs

- **Distributed and integrated ground segment**
  - Relying on a federation of centres of expertise across Europe
Online access at **sentinels.copernicus.eu**

**ESA Open Data Hub**
- Self Registration
- 53,660 Users
- No Rolling Policy Applied
- Sentinel-1 NTC
- Sentinel-2 L1C
- Sentinel-3 pre-ops
- Max 2 concurrent Downloads

**Collaborative Data Hub**
- 13 Collaborative Users
- Data Hub Relay Users
- Node 1: 30 days
- Node 2: 9 days
- Max 10 downloads
- Node 1: Max 10 downloads
- Node 2: No limits

**International Access Hub**
- 4 Users
- 30 Days
- No limits

**Copernicus Services Data Hub**
- 166 Users
- No Rolling Policy Applied
- Sentinel-1 NRT & NTC
- Sentinel-2 L1C
- Max 10 concurrent downloads

Statistics: 29 November 2016
Sentinels Data Dissemination – Overall Statistics

> 1.1 Million products available

> 53,800 Registered users

> 8 Million products downloaded

> 14 PB Data volume downloaded

Statistics: 29 November 2016
A total of more than 1 million Sentinels products published has been reached in the last quarter.

Produced in one year the equivalent of 50 years of ENVISAT mission data.

Complete Sentinels production since October 2014 is available online – no off-line ordering required.

As of 2017, it is projected that approx. 1 million new products will be generated quarterly.
Increase of 250% in registered users in last twelve months

Reached 1.5 PB of data disseminated to users in a single month

Served an average of more than 2 million user queries a day
Creating and enabling a European EO Data ecosystem for research and business

A common European approach to EO data exploitation with Copernicus data at its core

Implementing the “EO-Innovation Europe” concept in full complementarity with the COM initiatives notably the Copernicus Data and Information Access Services
ESA detailed implementation approach endorsed by the European Commission and the Copernicus Committee
CSC Mission Management On-Line

Copernicus Programme: copernicus.eu
Sentinel Online: sentinels.copernicus.eu
CSC Data Access: spacedata.copernicus.eu
ESA Sentinel app: available for iOS and Android
DIAS Context and Objectives
One year of Sentinels operations represents several PBs of new data (rate ~ 10 PB/year in 2018)

- User products: More than 1 Million of new records generated every three months

- 2014 / 2015 : archive exploitation ratio of 10

- Currently more than 50,000 registered unique users (different emails)

Sizing figures for the Copernicus Services data and information and the Sentinels products are provided in the *IGS Functional Requirements Document* included as reference document as part of the ITT documentation

*Note: Archive exploitation ratio is defined as the Number of downloads / Number of products in the archive*
DIAS Context and Objectives

DIAS Provider: In charge of DIAS Back-Office Services & Interfaces operations

Data Sources:
- Copernicus Data & Information, Sentinels Core Products, …

Back-office

Interface for storage access & processing and management

Scalable storage hosted on cloud environment
DIAS Context and Objectives

![Diagram showing the front-office and back-office operations of DIAS.](image-url)
Provision of Front-Office Infrastructure is under Third-party responsibility

Third-party: User implementing and/or operating a local service making use of the DIAS resources (storage, processing, ..) and data access interfaces.

DIAS Provider

Note: processing is considered “local” whenever performed on an infrastructure virtually collocated with the data.

“remote” processing requires data download through Wide Area Network prior to the processing.
DIAS Context and Objectives

The DIAS shall enable efficient local processing giving access to the available data

Solutions may be based on the complete local archiving or making use whenever possible of the existing Copernicus distribution services

Licence agreement and access controls shall be put in place to support data provider policy
DIAS Context and Objectives

The DIAS local services shall be documented and support any Third-party access scenario

- The proposed solution shall scale with the data offer and the Third-party needs
- The proposed solution shall support the reuse of the DIAS interfaces to publish Third-party data
DIAS Context and Objectives

The DIAS shall offer complementary interface services that may be accessed remotely

Some open and free support services are required locally and remotely

- Discovery, Catalogue, View services, ...

These services are considered critical for the attractiveness of the third party users but shall not become the main drivers of the DIAS

Whenever applicable services shall be INSPIRE compliant
Sentinels operations as well as Copernicus data and information operations and in particular data dissemination will continue in parallel to DIAS operations.
Procurement objectives and requirements
Procurement Objectives and Requirements

Baseline Tasks

Optional Tasks

Scope of present DIAS Procurement

Copernicus DIAS interfaces

Copernicus DIAS Storage

DIAS Provider
Procurement Objectives and Requirements

**DIAS Baseline Tasks**

- Provide access to Copernicus data & information for local Third-party processing activities
- Establish the conditions for Third-parties to access the DIAS processing & storage resources for their front-office activities
- Establish and operate the data access / processing interfaces, suited for large EO data volumes, allowing Third-parties to efficiently access the DIAS data offer for local processing activities
- Set-up a technical solution allowing the local processing of Copernicus data & information for an increasing user community
- Provision of support services for all users
- Implement the project management requirements, including the management of the SLA towards ESA
Procurement Objectives and Requirements

**DIAS Data Offer**
All data stored in the DIAS and/or available to DIAS users through the DIAS interface, including mandatory and complementary data data collections

---

**Sentinel user products**
As available by the Core Ground Segment Distribution service
All products since the start of Sentinels operations

**Copernicus Services Information**
As available by the Copernicus Services
All products since their start of availability through DIAS

**Complementary data collections**
The Bidder is invited to complement the required data offer with complementary data collections to support and attract front-office activities

**Additionally data collections**
DIAS stakeholders and/or Third-parties may provide additionally data collections to be included in the DIAS data offer (e.g. future Sentinels core products, legacy mission data, Third-party front-office results, National EO data, etc.)
**Procurement Objectives and Requirements**

**DIAS Data Offer**

All data stored in the DIAS and/or available to DIAS users through the DIAS interface, including mandatory and complementary data collections.

---

**Sentinel user products**

Covering past, present & future

Available through DIAS within 1 year from K.O.

Potential apportionment & strategy between data available locally on DIAS storage and data not locally available is to be defined in the proposal.

---

**Copernicus Services Information**

All since start of availability in DIAS

Available through DIAS within 1 year from K.O. *(Data Integration Plan)*

Potential apportionment & strategy between data available locally on DIAS storage and data not locally available is to be defined in the proposal.

---

**Complementary data collections**

To be defined in the proposal, including licensing conditions

Proposed collections are contractually binding

---

**Additionally data collections**

May be added at any time

Conditions to include additional collections in DIAS data offer shall be defined in the Bidder’s proposal.
Procurement Objectives and Requirements

**DIAS Data Offer**
All data stored in the DIAS and/or available to DIAS users through the DIAS interface, including mandatory and complementary data collections

**Sentinel user products**

Copernicus data license conditions (free and open access for local front-office activities)

**Copernicus Services Information**

**Complementary data collections**

Potentially restricted data license conditions (to be defined in the Bidder’s proposal)

**Additionally data collections**

Potentially restricted data license conditions: capability to manage restricted licensing and corresponding access is required
The DIAS Commercial Service Offer includes the commercial conditions for accessing the various DIAS services, the DIAS operations performance and all necessary information for DIAS users to size and cost a front-office service operations, including access to DIAS data, computing resources and download of results.

Offer for accessing to DIAS processing/storage/network resources, covering the needs of different user communities with associated conditions, including all information necessary for potential Third-parties to assess the interest in deploying their front-office operations on DIAS.

Including the SLA towards Third-parties.

The DIAS Commercial Service offer will be considered binding for the DIAS contract.

To be included in the proposal:
Presentation of a number of different potential user scenarios and the resulting offer and cost. Including scenarios demanding in terms of computing power, scenarios demanding in terms of storage, scenarios demanding in terms of output data volume to be downloaded from DIAS as a result of the Front-office service operations, scenarios demanding both in terms of computing power and storage resources.
**Procurement Objectives and Requirements**

**DIAS Local Data access interfaces**

DIAS interfaces offered to Third-party users for integrating products belonging to the DIAS data offer into their processing environment

- Established, maintained and operated by the DIAS Provider
- To be defined as part of the technical proposal
- Shall provide access for local processing to any data discoverable through DIAS
- Efficient access to EO data and large data products
- Possibility to access data units smaller than a complete product
- Open source approach for any DIAS developed layer on top of existing commonly available ICT interfaces or software layers
- Compatibility across different architectures/infrastructures positively assessed
Procurement Objectives and Requirements

**DIAS Support Services**

Tools and operational services of general interest for DIAS users, in particular product discovery tools, web map service tools for products visualisation, basic product transformations tools (e.g. format conversion, projection change, etc.).

- Established, maintained and operated by the DIAS Provider

- Including a **catalogue and view service**:
  - Catalogue service, allowing to discover any data and information available through DIAS
  - View service, allowing visualisation of data and information available through DIAS
  - Available as web-based interface and as API
  - Provided as operational services for all DIAS users & also as tools available for Third-party re-use within Third-parties front-office services

- Including a **Help-desk service**
  - Support Third-parties on the usage of DIAS for all user typologies
  - Support a series of technical workshops organised by ESA and COM to present the DIAS interfaces and collect feedback for evolution
  - Available 8h/5d

- Including a **Support repository**
  - A catalogue of all applications/services/software available for re-use by Third-party users as part of their local processing activities and front-office services operations
  - A framework for the distribution of open-source software of general interest for DIAS users
**Procurement Objectives and Requirements**

**DIAS Technical solution**

- DIAS architecture & overall solution (incl. capacity, scalability with user demand, network, security, storage, processing resources characterisation, ...)

- Approach to constitute, maintain and manage the DIAS data offer

- Approach for the monitoring & reporting of the DIAS operations performance

- Includes a public DIAS operations reporting dashboard

Data centre(s) involved in providing the DIAS operations and in particular the ones storing the Copernicus data and information shall be geographically located within EU Member States or Copernicus participating countries
The Tenderer is required to characterise the DIAS operations performance during the operational phase through the implementation and operations of a *reference front-office service(s)* based on (at least) an intensive use of Sentinel data and to measure the performance of this service.

**Description of the proposed reference front-office service(s) shall be part of the proposal**

The Bidder shall provide *evidence of the readiness of the proposed DIAS technical solution* to start the operations 6 months after K.O.

In order to support the credibility of the technical solution (both from a technical suitability and from a readiness perspective), the Tenderers are encouraged to complement the technical proposal description with additional *presentation and/or benchmarking of any proposed solution* already available and matching the ITT requirements (in operational form or at prototype level).

Such presentation, if available, it should be *provided in an annex to the Proposal* (including any necessary anonymous credentials if relevant).
**DIAS Project management**

**Highlights**

- Yearly service operations reviews are foreseen to regularly assess the performance of the service
- The management of the required services operations shall be based on a Service Level Agreement between ESA and the DIAS Provider
- The SLA will include the cost modulation factor to be applied to the operations cost as function of the relationship between the target and the measured performance
- The performance of the provided operational services shall be characterised through a set of Key Performance Indicators (KPI)

The proposed **DIAS SLA towards ESA**, including the operations performance and associated cost modulation, **shall be be part of the proposal**.
Optional Tasks

- Extension of all activities and services requested as part of the SoW beyond the nominal duration of the baseline contract
  - Annual services operations extension

- Support to Third-parties for integrating their front-office activities on DIAS
  - Support for Third-party services integration

- Integration and operations of specific data flows on DIAS
  - Integration and operations of Third-party services
Support for Third-party services integration

- The DIAS Provider may provide technical integration support to Third-parties through direct agreement between the DIAS provider and the Third-party.

- In addition, the DIAS provider may be requested by ESA as part of the contract to provide technical support to a Third-party for the integration of its service(s) on the DIAS. The associated effort will be covered through the activation of this Optional activity.

- The task may be activated as many times as necessary during the contract duration.

- The DIAS provider shall describe the proposed approach to provide such support.

- Applicable hourly rates shall be provided as part of the financial proposal.
Integration & Operations of Third-party services

• The DIAS provider may be requested by ESA as part of the contract to integrate a specific defined data flow(s) on the DIAS, including its systematic operations and the monitoring and reporting of the associated performances.

• “Data flow”: any kind of processing or transformation applied systematically to a set of Sentinel core products available, generating a result to be stored in DIAS, and discoverable using the DIAS catalogue and view tools implemented by the DIAS provider.

• The associated effort will be covered through the activation of this Optional activity.

• The task may be activated as many times as necessary during the contract duration.

• The DIAS provider shall describe the proposed approach to provide such support.

• Applicable hourly rates shall be provided as part of the financial proposal.
Contract and Special Conditions of Tender Highlights
Contract and Special Conditions of Tender Highlights

- Context – Copernicus Agreement and Procurement Regulations
- Eligibility
- Subcontracting: At least 20%
- Key importance of STCs in the proposal preparation for this procurement
- esa-star
ESA STAR Scope

**ESA STAR**
- Entity Registration
- Tender Preparation
- TEB & TEP Nomination
- Best Practices
- Tender Package Preparation
- Two-Step Registration Procedure
- DB Validation & Update
- Access Rights
- IITTs & ITTs Publication
- Expressions of Interest
- Best Practices (Tenders published on behalf of third parties)
- Clarifications
- News, Documents, etc.
- Restricted Competition
- Direct Negotiation

**EMITS**
- Publish Information
- Proposal Reception
- Clarification Requests Reception
- Extensions Requests Reception
- The three above functions, but for “Best Practices”

**ESA STAR**
- Receive Information
- Support Evaluation
- Secrecy Forms
- Access to Offers
- Clarification & Extension Management
- TOB Report
- Offer Analysis
- TEB Report

**External Reporting**
- (Dashboard showing currently running Tender actions)

**Internal Reporting**
- (Detailed Status, Configurable Searches, Reports & Statistics)
## ESA STAR Main Benefits

### ESA STAR Tendering

- Quick and easy access to public and private ESA tendering information;
- Makes it easier for businesses to obtain tender documentation and to submit an offer on time;
- Increased tender opportunities for geographically isolated industry organisations;
- Reduces the cost of printing - saving time and resources in view of the equal treatment of suppliers involved in the tendering process.

### ESA STAR Registration

- Simplified registration process;
  - By rationalising the number and nature of the information to be entered.
  - By greatly improving questionnaire user friendliness.
- Full and Light registration options available.

### External Partners

- Streamlines the tendering process increasing efficiency and effectiveness;
- Consistent tendering practice across ESA
- Full transparency and auditability of tendering process.
- Allows downloading of tenders info in a form suitable for evaluation without having to manually re-enter data
- Provides improved and secure access to tender information
- Environmentally friendly due to a predominantly ‘paperless’ process.

### ESA

- Consistent Entity management process in place, integrated with all Agency applications;
- Enhanced Entity management reporting capabilities.
- Improved data reliability.
- Improved application usability.
Contract and Special Tender Conditions Highlights

Timeline

- DIAS ITT release: January 2017
- DIAS Contract(s) K.O.: July 2017
- The procurement foresees a 4 years duration with possible yearly extension under same operational conditions (subject to the review process with the European Commission)
- A 6-months phase-in is foreseen before starting the operations phase
• The Agency intends to place more than one contract as a result of this procurement.

• The Agency has earmarked for each awarded Contract a budget range of between 10,000,000 to 16,000,000 EURO for the baseline activities and for the overall contract 4 years duration. The adoption of the aforementioned budget range reflects the potential types of proposed possible solutions.

• Consortium experience shall include at least: EO data handling experience & ICT experience & Services operations experience
Legal issues highlights

• The DIAS Provider shall protect confidential information hosted on the DIAS against unrequested divulgation

• The DIAS Provider shall not divulge information hosted on DIAS to non-EU authorities and shall flag any such obligation

• The DIAS Provider shall guarantee the protection of Intellectual property and privacy
### Evaluation Criteria

<table>
<thead>
<tr>
<th>No.</th>
<th>Evaluation Criterion</th>
<th>Weighting Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Background &amp; experience of the Consortium (to the particular field concerned) of the company (ies) and key personnel as demonstrated through the understanding of the service objectives, requirements and discussion of problem areas.</td>
<td>15 %</td>
</tr>
<tr>
<td>2</td>
<td>Compliance with the technical requirements and adequacy of Technical Solution</td>
<td>30 %</td>
</tr>
<tr>
<td>3</td>
<td>Quality and suitability of DIAS service proposal towards Third-party users</td>
<td>30 %</td>
</tr>
<tr>
<td>4</td>
<td>Adequacy of management, costing and planning for the execution of the work, including the proposed SLA towards ESA</td>
<td>15 %</td>
</tr>
<tr>
<td>5</td>
<td>Compliance with administrative tender conditions and acceptance of contract conditions</td>
<td>10 %</td>
</tr>
</tbody>
</table>
Tender structure:

- Cover Letter
- Executive Summary
- Understanding of the Objectives and Compliance Against the Requirements
- Technical Proposal
- DIAS Service Proposal
- Project Management Proposal
- Financial and Contractual Proposal
- Deviation and non-compliances
Cover Letter

Forms A, B and C
Contract and Special Tender Conditions Highlights

Proposal Structure

Executive Summary

- A brief overview of the programme of work
- An organigramme
- A description of the major critical areas
- A list of the Tenderer’s assumptions
- Explain the contents and layout of the tender and traceability
- Confirm compliance with draft contract provisions.
Understanding of the Objectives and Compliance Against the Requirements

- Understanding of the requirements and objectives
- Compliance matrix
- Identification and Discussion of Critical Areas and Risks
Technical Proposal

- DIAS Architecture (separating data access from other services, scalability and data centre(s))
- DIAS Network
- DIAS Data Access Interfaces
- DIAS support services (catalogue, view, helpdesk, ...)
- DIAS Operations performance (characterise the DIAS operations performance during the operational phase through the implementation and operations of a reference front-office service)
- DIAS security
- Description of the proposed approach to constitute, maintain and manage the DIAS data offer
DIAS Service Proposal

- Complementary data collections & licensing conditions
- Approach to make all Sentinel mission data available through DIAS for Third-party users
- Conditions for integrating additional data in the DIAS data offer during the Contract duration.
- Description of the DIAS Commercial Services Offer incl. SLA towards the Third-Party users
- Strategy to develop the use of the DIAS for Third-party operations and stimulate the EO front-office growth incl. operational development plan (initiatives) and support

Annexes:

*Data Integration plan*

Describing the plan to make all Sentinel data and Copernicus services information available through DIAS for Third-party operations within 1 year after contract KO.
Contract and Special Tender Conditions Highlights

Tender Structure

Project Management Proposal

- Industrial consortium key personnel and roles
- Programme of work
- SLA towards ESA

Annexes:  
- Draft Project Management Plan
- Draft Operations Plan
Contract and Special Tender Conditions Highlights

Proposal Structure

Deviations and non-compliances
Events that may lead to the Contract termination:

- violation of Commercial Data Offer towards DIAS users with respect to what declared in the proposal and agreed at KO.
- violation of the access to mandatory data collections
- violation of the declared access to complementary data
Financial Proposal Highlights
A cost model with KPIs will be applicable to the Service Cost (FFP)
DIAS Service Operations – Cost Model

• The DIAS services operations cost will be modulated as a function of the operations performance.

• The cost modulation function shall be documented in the proposed SLA towards ESA.

• The SLA shall define up to 5 different levels of performance for each service, corresponding to different classes of operations performance.

• The performance classes shall correspond to different cost modulation factors, establishing the relationship between delivered service performance and service cost.

• Cost modulation is not applicable during the Phase-in.
**DIAS Service Operations – Cost Model**

**Cost model**
- Cost Model
- Monthly operations cost

**Maximum service cost (assuming maximum performance level delivered)**

**Quarterly a-priory reference payment plan**

**Regular operations performance monitoring**

**Quarterly KPI measurement**

**Service Level Agreement**
- Establishment of corresponding performance class & Associated cost modulation on a quarterly basis

**Adjusted quarterly payment**

<table>
<thead>
<tr>
<th>Performance class</th>
<th>Cost modulation factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations performance level 1</td>
<td>Cost modulation 100%</td>
</tr>
<tr>
<td>Operations performance level 2</td>
<td>Cost modulation xx%</td>
</tr>
<tr>
<td>Operations performance level 3</td>
<td>Cost modulation yy%</td>
</tr>
<tr>
<td>Operations performance level 4</td>
<td>Cost modulation zz%</td>
</tr>
<tr>
<td>Operations performance level 5</td>
<td>Cost modulation ww%</td>
</tr>
</tbody>
</table>
- A1 to be filled out per company of the consortium,  
- Rates which are applicable in this contract (incl. future CCNs, WO - Service Evolutions) 

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Conditions</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
<th>Year 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
<td>Labour OH</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
<tr>
<td></td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
<td>Overhead %</td>
</tr>
</tbody>
</table>
## Financial Proposal Highlights

**DIAS Services Operations (FFP)**

- **Pre-Defined WPs A8:** prime incl. subcontractors & subcontractors individually (2017-2021ec)

### COMPANY MANPOWER AND PRICE SUMMARY PER WP

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WP 100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WP 200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WP 300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WP 400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WP 500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WP 600</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WP 700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WP 800</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals WBS-Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Labour Hours per category and year

<table>
<thead>
<tr>
<th>WP Number</th>
<th>WP 100</th>
<th>WP 200</th>
<th>WP 300</th>
<th>WP 400</th>
<th>WP 500</th>
<th>WP 600</th>
<th>WP 700</th>
<th>WP 800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rates [NC]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Manager 2017</td>
<td>79.20</td>
<td>39.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior Eng. 2017</td>
<td>56.00</td>
<td>28.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Manager 2018</td>
<td>80.00</td>
<td>40.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior Eng. 2018</td>
<td>70.00</td>
<td>35.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior Eng. 2018</td>
<td>56.56</td>
<td>28.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Manager 2019</td>
<td>80.80</td>
<td>40.40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior Eng. 2019</td>
<td>70.70</td>
<td>35.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior Eng. 2019</td>
<td>57.13</td>
<td>28.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Total Labour Cost

<table>
<thead>
<tr>
<th></th>
<th>WP 100</th>
<th>WP 200</th>
<th>WP 300</th>
<th>WP 400</th>
<th>WP 500</th>
<th>WP 600</th>
<th>WP 700</th>
<th>WP 800</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>5,600.00</td>
<td>15,840.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

### Internal Special Facilities Cost

NC

### Other Direct Costs (*)

<table>
<thead>
<tr>
<th></th>
<th>WP 100</th>
<th>WP 200</th>
<th>WP 300</th>
<th>WP 400</th>
<th>WP 500</th>
<th>WP 600</th>
<th>WP 700</th>
<th>WP 800</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

### Overhead [%]

<table>
<thead>
<tr>
<th></th>
<th>WP 100</th>
<th>WP 200</th>
<th>WP 300</th>
<th>WP 400</th>
<th>WP 500</th>
<th>WP 600</th>
<th>WP 700</th>
<th>WP 800</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

### 1/5 Material Costs

NC

### 5 External Major Products Cost

NC

### 7 External Services Cost

NC

### 8 Transport/Insurance Cost

NC
In addition to A8 - Exhibit A to be filled out if other direct cost (eg. External Service Cost (in detail), External Major Products)

<table>
<thead>
<tr>
<th>WP No.</th>
<th>ITEM DESCRIPTION</th>
<th>Type of Price</th>
<th>Purchase Currency</th>
<th>Purchase Amount</th>
<th>Exchange rate 1 NC =</th>
<th>Amount in</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In addition to A8 - Exhibit B to be filled out for travel cost
**Financial Proposal Highlights**

**Service Operations- Total Cost (A2)**

Only the Prime should provide an A2 showing the Total Cost (2017-2021) of the Total Service Cost (FFP). Subcontractor Cost to be listed in the lower part.
Financial Proposal Highlights

Options

- A8 Ceiling Price 2018-2023 ec
- Exhibit A if applicable
- Later on a conversion CCN

<table>
<thead>
<tr>
<th>WP Title</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
<th>Option 5</th>
<th>Option 6</th>
<th>Option 7</th>
<th>Option 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support for Third-party services integration (2018-6/2021 ec.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample Third party services integration and operation (2018-6/2021 ec.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension of the contract (7/2021-6/2022 ec.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Option 4 Extension of the contract (7/2022-6/2023 ec.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support for Third-party services integration (7/2021-6/2022 ec.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Option 6 Support for Third-party services integration and operation (7/2022-6/2023 ec.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WP Number</td>
<td>WP 100</td>
<td>WP 200</td>
<td>WP 400</td>
<td>WP 500</td>
<td>WP 600</td>
<td>WP 700</td>
<td>WP 800</td>
<td>WP 900</td>
</tr>
<tr>
<td>Labour Hours per category and year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Manager 2017</td>
<td>79.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># 100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior Eng. 2017</td>
<td>56.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># 200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Manager 2018</td>
<td>80.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior Eng. 2018</td>
<td>70.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior Eng. 2018</td>
<td>56.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Manager 2019</td>
<td>80.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior Eng. 2019</td>
<td>70.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior Eng. 2019</td>
<td>57.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Labour Hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Total Labour Cost</td>
<td>NC 19,120.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>2. Internal Special Facilities Cost</td>
<td>NC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conclusion
Scenario overview: remote DIAS services access

End user accessing the support services to browse through the different DIAS offers
3 – OPERATE

The Third-party autonomously operates its own front-office services and user community.

2 – CONFIGURE

The Third-party autonomously configures its own front-office environment (e.g. install own application, select needed data collections). In doing this, it is able to browse through all (virtually) available DIAS collections through DIAS interfaces. It has also the possibility to reuse any DIAS available tool. It is able to contact the DIAS Help Desk in case support is needed.

1 – AGREE & GET ACCESS TO THE REQUIRED RESOURCES

The Third-party takes direct contact with the DIAS Provider to get access to the needed resources according to the DIAS Commercial Services Offer (incl. processing, storage and network capacity as well as data collections access).
Conclusion

Scenario overview: Chaining of Third-party services on Copernicus DIAS

1 – AGREE & GET ACCESS TO THE REQUIRED RESOURCES

The Third-parties take direct contact with the DIAS Provider to get access to the needed resources according to the DIAS Commercial Services Offer.

2 – CONFIGURE

The Third-parties autonomously configures their own front-office environment.

3 – GET ACCESS TO THIRD PARTY DATA

Third-party(2) negotiates data and interfaces with another Third-party(1) service provider. Direct link between the Third-parties.

4 – OPERATE

Third-parties operate their own services for their own users community.
Conclusion

- Free integration of Sentinel data and Services information on his/her processing/operations
- No need to integrate his/her own service within any particular Copernicus contractual framework
- Possibility to operate and manage own service autonomously, including management of access to third-party own service results
- Well documented offers to size and compare potential services provided by DIAS
- DIAS service scalability according to own needs
- IPRs & confidentiality protection
Conclusion

A straightforward concept

&

A real industrial challenge

• Issue early 2017
• Large range of possible solutions
• Ready for operations (KO + 6months)