



## **Schedules and interfaces (backup notes)**

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# Interface example (e.g. ICD DATA-COM)

Item Name	Actions
<a href="#">Interface: I-DATA-COM-0006 Cherenkov Transparency Coefficient (CTC)</a>	
I-DATA-COM-0001: COM subsystem version: 1.0	
Information provided by:	
Name	WP sub-project
R. de los Reyes	COM-CCF
J.L. Contreras	DATA (DM)
A. Carossi	DATA (ARCH)
R. de los Reyes	DATA (PIPE-Cal)



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**Responsables  
+  
Information**

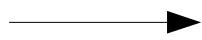


Table 1: List of DATA-COM interfaces

## 1.1 Description of Data Interface

I-DATA-COM-0006: CTC	
Data Interface: CTC	
Description	Cherenkov Transparency Coefficient for atmospheric transmission characterization
Operation/information level	Per Telescope

<https://portal.cta-observatory.org/WG/Central%20Systems%20Engineering/Lists/Interface%20Database/List%20of%20items%20no%20detail.aspx>

# Calibration information now in Redmine

A screenshot of a Redmine Wiki page. The breadcrumb trail at the top reads 'CTA >> DATA >> PIPELINES >> Calibration'. The page title is 'Array calibration'. The content includes a paragraph about intercalibration and cross-calibration, a paragraph about the COM group and DATA-COM interface, and a list of COM-CCF devices. A second list of tasks is shown in a separate section.

CTA >> DATA >> PIPELINES >> Calibration

Search:

Overview Activity Roadmap Issues New issue Gantt Calendar News DMSF **Wiki** Files Settings

Wiki »

## Array calibration

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## Array calibration

The calibration methods described in here are aimed to provide relative calibration between identical telescopes within a subsystem (**intercalibration**) and telescopes of different sub-systems (**cross-calibration**).

The development of the Calibration methods corresponds to the COM group. The implementation of different COM methods into corresponding DATA products is managed and described through the external interface [DATA-COM](#).

The COM-CCF devices/methods in charge of the Atmosphere Calibration that has an [interface](#) with DATA are:

- Octocopter (I-DATA-COM-3111)
- Laser-based array calibration (Central Laser Facilities) (I-DATA-COM-3121)
- Illuminator (I-DATA-COM-3141)

The different tasks performed by the Calibration Pipelines can be grouped in:

- integrate CCF device: internal DATA interfaces through which Pipelines will receive the data structures (I/O libraries) and DB structure from [Data Model](#) and [Archive](#) to be able to access the data when building the calibration modules or the rest of the Calibration Pipelines.
- implementation of algorithms: construction of the calibration modules
- integrate algorithms: integration of the calibration modules into the Calibration Pipeline (more critical for those which input is mainly the EVT or CAL events).
- test algorithms on partial array: those algorithms that depend on the number of telescopes have to be tested during the deployment of the telescopes on-site

Wiki »

## Atmosphere calibration

The calibration methods described in here are aimed to provide calibration of the atmosphere above the CTA0. This will be achieved using different atmosphere monitoring devices and methods. A detailed description of them together with the error budget expected for each of them within the CTA Calibration Strategy is documented in ([https://portal.cta-observatory.org/recordscentre/Records/COM/COM-CCF/CTA\\_Calibration.pdf](https://portal.cta-observatory.org/recordscentre/Records/COM/COM-CCF/CTA_Calibration.pdf) : COM-CCF/140616)

The development of the Calibration methods corresponds to the COM group. The implementation of different COM methods into corresponding DATA products is managed and described through the external interface [DATA-COM](#).

The COM-CCF devices/methods in charge of the Atmosphere Calibration that has an [interface](#) with DATA are:

- Raman LIDARS (I-DATA-COM-3001)
- All-Sky-Camera (ASC) (I-DATA-COM-3011)

The different tasks performed by the Calibration Pipelines can be grouped in:

- integrate CCF device: internal DATA interfaces through which Pipelines will receive the data structures (I/O libraries) and DB structure from [Data Model](#) and [Archive](#) to be able to access the data when building the calibration modules or the rest of the Calibration Pipelines.
- implementation of algorithms: construction of the calibration modules
- integrate algorithms: integration of the calibration modules into the Calibration Pipeline (more critical for those which input is mainly the EVT or CAL events).
- test algorithms on partial array: those algorithms that depend on the number of telescopes have to be tested during the deployment of the telescopes on-site

The list of tasks (links between brackets) that will be performed through the listed interfaces are:

- Implementation of algorithms:
  - [CTC \(#8546\)](#) ←
  - *Data selection using atmospheric parameters*
  - *Data correction*
  - *ARCADE LIDAR*

# ICD tasks (e.g. DATA-COM)

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## DATA WP involved

- COM-CCF pre-production phase:
  - *Receive feedback from CCF (during the CCF pre-production phase)* → DM, ARCH, MC(?)
  - *Integrate results* → DM, ARCH, MC(?)
- COM-CCF production phase:
  - *Construct data infrastructure* → DM, ARCH
  - *Integrate CCF device* → internal DATA interfaces
  - *Implementation of algorithms* → CCF / PIPE-CAL
  - *Integrate algorithms* → PIPE-CAL + CCF
  - *Test algorithms on partial array* → CCF + PIPE-CAL



# Tasks (ICD DATA-COM)



## Managing of interfaces tasks in Redmine

The screenshot shows a Redmine task page for 'Task #8546'. The breadcrumb trail is 'CTA » DATA » PIPELINES » Calibration'. The task title is 'Implementation of CTC algorithms for atmospheric calibration', added by 'de los Reyes Raquel' 7 months ago. The task is assigned to 'de los Reyes Raquel' and is in the 'Atmosphere Calibration' category. The description is 'I-DATA-COM-3201 Camera/Pointing/Array/Atmosphere Calibration'. The task has a start date of 08/01/2016, a due date of 06/02/2017, and an estimated time of 475.00 hours. The progress bar shows 0% completion. The 'Assigned To' field is highlighted with an arrow pointing to the text 'Camera/Pointing/Array/Atmosphere Calibration'.

Status:	Assigned	Start date:	08/01/2016
Priority:	Normal	Due date:	06/02/2017
Assigned To:	de los Reyes Raquel	% Done:	0%
Category:	Atmosphere Calibration	Estimated time:	475.00 hours
Target version:	-	Spent time:	-

Description: I-DATA-COM-3201 **Camera/Pointing/Array/Atmosphere Calibration**

Subtasks: Add

Related issues: Add

Follows (30 days) COM - Task #8529: Develop CTC algorithms for atmospheric calibration	New	06/01/2015	07/01/2016	
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# Tasks (ICD DATA-COM)

- Management through Redmine tasks:
  - Status: **New**, **Assigned**, In Progress, Closed,...
  - Priority: Low, **Normal**, High, Urgent, Immediate.
  - Assigned To: **<empty>/person**
- CCF has priority → **“Assigned” + <empty>**
- Lack of CCF men-power: DATA will help → **“New” + <empty>** → Eol.

## Data Pipelines Wiki



Who is available to work? What are the interests? If you want to help with the development of the Pipelines software, please add yourself to the [ExpressionOfInterest](#) and subscribe to the [Pipeline Developers Forum](#)

# Backup slides



# Why an ICD with DATA?



- DATA will provide the software for CTAO to do:
  - **CTA data production:** from raw data (DL0) to Science data (DL5).

**ICD DATA-LST, ICD DATA-COM → DATA is ready to:**

- Store your data.
- Re-produce at any time the calibration results.
- Apply your calibration results to the CTA analysis.

- Access to all the produced Data levels.



**ICD DATA-LST, ICD DATA-COM**

# ICD role

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- **Not a “physical” interface → information and software development work.**
- **Feedback to...**
  - DATA with hardware information.
  - Telescopes+CCF with DATA products (validation).
- Set up support/implementation **responsibilities** of the Calibration methods.

# ICD tasks: proposal

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- General → **give feedback** to DATA about hardware.
- Data Model/Archive → **construct data structure** and storage (headers, DB, metadata, MC,...).
- Pipelines → **implementation of algorithms** (on-site and/or off-site).
- General → **test the DATA integration.**
- ...