



**LTP  
Usage  
Experience**



**User testimonial/feedback**

**Olivier Rasson**

**Data manager**



**ROYAL BELGIAN INSTITUTE  
FOR SPACE AERONOMY**



# LTP user testimonial/feedback

## Introduction

- **Aeronomy:**
  - *Space pole : RMO + ROB + BISA*
  - *Atmospheres study*
  - *53 years, ~170 colleagues*
- **My job : management of:**
  - *incoming data streams: +180TB/y*  
*scientific measures*  
*groundbased/satellite/model data*
  - *storage : 900TB (end 2018)*
- **LTP: archiving solution with keeping local copy online (as long as needed)**
  - *Scientific and belgian immaterial heritage*
  - *already uploaded: 58.500 zip, 240TB*



# LTP user testimonial/feedback

## Technical environment

- Linux based infrastructure
- No usage of graphical interface for ingest
  - *No click!*
- Ingest/reporting automated by usage of http API instead
  - *3 bash scripts*
- GUI used for process reporting and usage statistics



# LTP user testimonial/feedback

## Technical approach (1/4)

- Specify eligible data sets

*/bira-iasb/data/GROUNDBASED/AWDA-BISA/VLF-ANTENNA/PRINCESSE-ELISABETH/L?/20??/??/??*

*/bira-iasb/data/GROUNDBASED/BRAMS/20??/??/??*

*/bira-iasb/data/GROUNDBASED/FTIR/bruker{120M,125HR,125M}/\*/20??/??/??*

*/bira-iasb/data/SATELLITE/ENVISAT/GOMOS/L?/ESA/?/?\_??/20??/??/??*

*/bira-iasb/data/SATELLITE/ENVISAT/MIPAS/L2/ESA/?/?\_??/20??/??*

*/bira-iasb/data/SATELLITE/ERS2/GOME/L1/{BISA,DLR,ESA}/\*/????/??*

*/bira-iasb/data/SATELLITE/DMSP-F\*/SSMI/L3/NASA/????*

*/bira-iasb/data/SATELLITE/METOP-?/IASI/L1C\*/EUMETSAT/?/?\_??/20??/??/??*

*/bira-iasb/projects/TROPO/MODEL/CORDEX\_METEO/{HISTORY,RCP??}*

**=> Advanced format (zip)**

**=> Usage of regexp**

**=> Size of candidates: from a few GB to ~500GB**



# LTP user testimonial/feedback

## Technical approach (2/4)

- Bash script to scan and find new/modified candidates

```
/bira-iasb/data/GROUNDBASED/BRAMS/2018/02/07  
→ bira-iasb_data_GROUNDBASED_BRAMS_2018_02_07
```

```
/bira-iasb/data/SATELLITE/METOP-A/IASI/L1C_PCS/EUMETSAT/N/1_10/2018/05/11  
→ bira-iasb_data_SATELLITE_METOP-A_IASI_L1C_PCS_EUMETSAT_N_1_10_2018_05_11
```

**=> Functional path converting to string basename**

**=> Structured/normalized tree**

**=> Encode meta data in basename!**



# LTP user testimonial/feedback

## Technical approach (3/4)

- Bash script to create couple of xml+zip files

*bira-iasb\_data\_GROUNDBASED\_BRAMS\_2018\_02\_07*

→ *bira-iasb\_data\_GROUNDBASED\_BRAMS\_2018\_02\_07.xml*

*functional path*

*(meta data)*

*size+md5 of each file*

*keep local copy of xml file (quality check, reconciliation)*

→ *bira-iasb\_data\_GROUNDBASED\_BRAMS\_2018\_02\_07.zip*

*recursive*

*add xml!*



# LTP user testimonial/feedback

## Technical approach (4/4)

- Bash script to upload couples

*bira-iasb\_data\_GROUNDBASED\_BRAMS\_2018\_02\_07*

→ *bira-iasb\_data\_GROUNDBASED\_BRAMS\_2018\_02\_07.zip*

*firstly (biggest file)*

→ *bira-iasb\_data\_GROUNDBASED\_BRAMS\_2018\_02\_07.xml*

*next (ingest trigger)*

**=> Authenticated ftp (curl, lftp)**



# LTP user testimonial/feedback

## Technical approach

- Quality check, reconciliation

list local information (csv)

list remote ingested (json to csv)

compare/analyse!

```
==> listLocal.csv <==
```

```
/bira-iasb/data/GROUNDBASED/BRAMS/2018/11/22.xml,bira-iasb_data_GROUNDBASED_BRAMS_2018_11_22.zip,2018-12-18T00:27:06Z
```

```
==> listRemote.csv <==
```

```
bira-iasb_data_GROUNDBASED_BRAMS_2018_11_22.zip,2018-12-18T05:52:26Z,87c34620052140808ac00accd8d34d74b43f275071e74db7b2aab08f2feeb77ec80e7530cce140e0b9f295cc8d31d719,FINISHED
```





# LTP user testimonial/feedback

## Conclusion

- Basic technical approach
- Half automated
- No automatic management for retrieving (disaster)
- No local DB usage, only csv files used

=> Simple... **but it works fine!**



**THANK YOU!**  
**MORE INFO?**

**[www.aeronomie.be](http://www.aeronomie.be)**

**[olivier.rasson@aeronomie.be](mailto:olivier.rasson@aeronomie.be)**