

# Interaction between data user and SLR stations

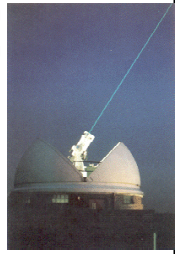
## Setting the Stage

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- **What is the SLR station (in reality)**
- **Who is really the data user ?**
- **What does interaction mean, imply and result in?**
- **Suggestion**

# SLR station and its real environment -the SLR station consists of more than



- ◆ Consists of SLR equipment, hardware and software
- ◆ Operated by people (who need to be trained, and paid, they will say it's their SLR station)
- ◆ The 'mother' organisation (they will say it's *their* SLR station)
- ◆ The funders of the 'mother', (they will say the SLR is an unnecessary expense, and should probably be moved to another agency)



Rationalisation plans, non-funding strategies, political strategies, self-serving agendas, shutting down priority list

# **The user....**

## ***Anyone who uses the data***



- Analyst/data user must communicate data quality issues, sudden biases, deviations etc.
- Data screening and quality checks, inform the station
- In addition, LACK of data must be queried, there may be more behind no data than equipment failure
- If you do not talk to the stations, they will not be aware of problems that their own checks do not detect

**Analysis  
Centres,  
Associate  
Analysis  
Centres,  
Other  
Institutions,  
NASA, ESA  
Individuals  
*You***

## In addition

- ◆ Recognition of station in publications and reports
- ◆ Make an effort, send a letter to the station thanking them for their continued support in providing data, do it every year !
- ◆ These recognitions are *essential* when the funding support of a station becomes or is an issue

The SLR station must continuously convince the funding organisation of its value to science, why its contribution to the international pool of data is important, why it needs more money so that it can pay operators over weekends, and in some cases, far too often, why it should not be shut down, etc.



# Station responsibilities

- ◆ In the event of problems, notify users via mail exploder
- ◆ Keep log files current
- ◆ Monitor ILRS performance (report) cards
- ◆ Be diligent and pro-active in maintenance to prevent downtime
- ◆ System calibrations/checkouts
- ◆ Training of new operators
- ◆ Keep operators motivated

# Interaction Data user and SLR station

- ◆ It *is* a two-way street, currently very limited communication exists, stations gather data, users process data, two separate functions
- ◆ Interaction improves response time
- ◆ Feedback and recognition supports stations existence rationale
- ◆ With forthcoming missions, especially GALILEO svcs, your favourite satellite may not be supported as much as you would like, which means that the amount of down time and inferior data must be constrained even more than before

# **Some previously raised points**

- ◆ - **Several ACs check data routinely, produce RB / TB etc, results are inconsistent, meaningless, and are in fact artifacts of the processing strategy and processing software, and are NOT station range bias or time bias, they are analysis RB/TB.**
- ◆ - **Therefore, doing regular checks / reading of these results have little motivation (besides being time consuming).**

# Possible improvements to communications problem

- ◆ ILRS web page, which flags problems (but then stations must monitor the page)
- ◆ Mail exploder with flagged problems (but there are many mail exploders already)
- ◆ **ILRS watchdog?** To collate and interpret TB/RBs from ACs, data quality/format checks, drifts, jumps, calibration deviations etc.
- ◆ IF there is a significant (i.e. visible in ALL or MOST ACs results) indication of a station / data problem:
  - => watchdog sends a mail to the station
  - To be effective, that should be done as soon as practical (maybe not daily, but within few days)
  - In some cases, an AC might send such a mail to a station, if the AC is convinced it IS a station problem
- ◆ In any case, the ILRS Watchdog must come to some conclusion, and decide any action, value of information etc.

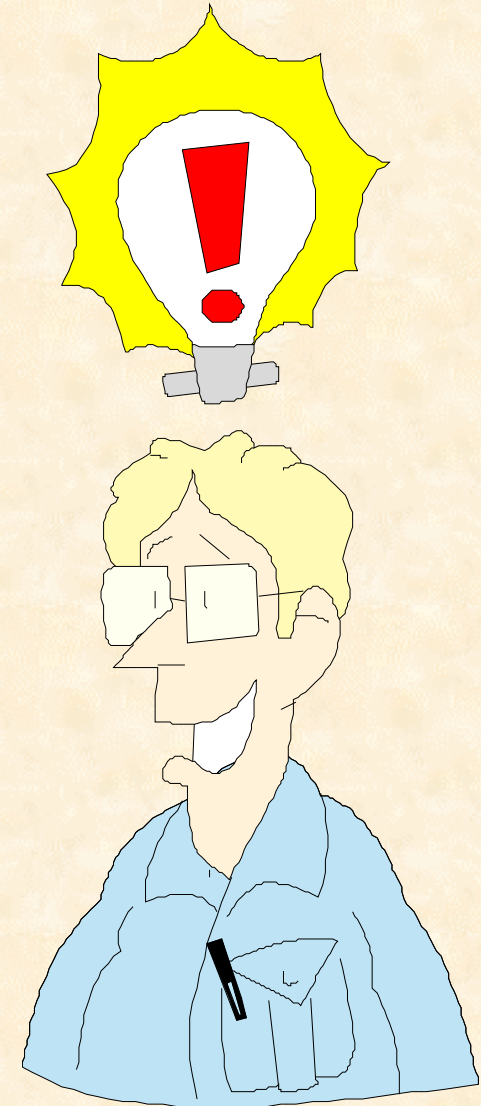
## Advantage:

- ◆ => No daily inspection of a number of AC Result Files by many stations necessary;
- ◆ => One would expect a more meaningful statement if the problem is visible in several AC results, and have been interpreted by the ILRS Watchdog
- ◆ => Any station getting such a mail should be pushed to check everything immediately to detect / remove the problem (or STOP operation if a severe problem cannot be solved)



# ILRS Watchdog?

- ◆ **Software based**
- ◆ **Utilises as input, outputs from ACs and other sources**
- ◆ **Centrally monitors ILRS network availability, reliability, performance**
- ◆ **Send alerts indicating the occurrence of problematic events, based on statistics, data issues, processed data which indicate problems and other re-defined anomalies/deviations**



Thank you !