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Preserving history and technical “know-how” - experience at SLR station Riga

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Abstract. *With the satellite observational start dates: visual – 1957; photographic - early 60’s; SLR testing and integration - early 70’s; regular SLR - 1988 and GPS - 1996, Riga 1884 is one of the oldest continuous operating station in the world. Now we have to deal with the 53 years of heritage including history, “know-how” and technical information in different formats and several languages and a lot of the old hardware. This situation is complicated due to the change of generations and loss of knowledge. We present our experience on recovering the historical information and "know-how" to support the current station upgrade and the steps taken to preserve information in the future. The preservation of the old hardware components and documents of historical interest is also under way.*

Introduction

After 50 years of SLR observation, the need to keep the historic records to better understand the evolution of the SLR technology is more and more evident. The Riga Station 1884, started as an optical tracking station for the Soviet Space program and in late 1957 carried out its first optical satellite observations.

Some milestones are:

- 1957: first visual observations of a satellite.
- 1960: first photographic satellite observations.
- 1969: first laser ranging observations
- 1989: regular laser ranging.
- 1996: permanent GNSS station.
- 2006: IGS station.

The station heritage is not only important to preserve history but our experience shows that it may help also while upgrading legacy system. Certain patterns and solutions seem to be persistent and spans more than one generation of SLR systems and includes some elements from even older systems. We have been revising all the archived data logs, and have found examples of the early data formats used and reports and data logs on the field expeditions to faraway places including Japan, Bolivia and Kerguelen Island on the Indian Ocean among others.
Also it just confirms that it is important to keep technical documentation and procedure descriptions up to date and to have backups. Even with complete documentation the loss of know-how is possible.
More important is that in the frame of the current station upgrade, we have experienced the need to have fully detailed technological information of the current configuration and we had taken steps to ensure that the current upgraded will be fully recorded.

We are using a combination of

- Full documentation of the initial status, modifications done and final technical situation.

- Detailed reports and operational manuals for all the modification.
- Field recording, using photos, HD videos (if needed) and voice recordings.
- The use of a Wikipad application to log all the maintenance, modification and calibration carried out.

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References

[Wikidpad] http://wikidpad.sourceforge.net/