

The Reasons to Succeed and to Fail a GNSS RTK Positioning Infrastructure Project

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SUMMARY

Most of the GNSS Network RTK projects have been developed by the economical justification that an active geodetic network would reduce the cost of maintaining a traditional geodetic network where the maintenance of the benchmarks and the control survey were a significant part of the owner's budget. A GNSS Network RTK can also be justified where there was no geodetic network to assist the creation and the maintenance of a Spatial Data Infrastructure to support land governance and cadastre operations. We also have seen the decision to deploy such technology as part of prestige from governmental organizations but without a clear analysis of user's need and business plan leaving such positioning infrastructure with only few users and a request to re-engineer the approach. The author has been in charge of both the development of the technology and also the promotion, the design and the implementation of numerous GNSS Network RTK positioning infrastructures worldwide. That paper is dealing with the reasons the author has indentified to make such project a success or a failure. Is there still a future for such infrastructure and what would be the conditions to make them sustainable? What is the real economy? Is selling corrected observations the only product and how the users are prepared to pay for a service that could be still delivered by setting up their own local GNSS Base Station? How to deal with the security that most countries are concerned with in term of releasing precise coordinates? Will we be able to cope with the new constellations signals? Is Precise Point Positioning the technology that will make the GNSS Network RTK obsolete? Where are the hidden costs and how much the communication infrastructure is affecting the operation expensive? Most of those questions are open and must be reviewed to conclude about the possible changes needed to consider an investment in a GNSS Network RTK of a great value and how optimizing and re-engineering an existing GNSS Network RTK can be carried out and beneficial for the owners of such positioning infrastructure.