

# The BOOSTED project :

## A new infrastructure for time and frequency transfer in Belgium

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Recent developments in time and frequency transfer based on optical fibers, as an alternative to GNSS, support fast growing activities at the European scale. We will present the recent advances made in Belgium in this domain, towards the creation of a new infrastructure based on the existing internet fibered network managed by BELNET, the Belgian NREN.

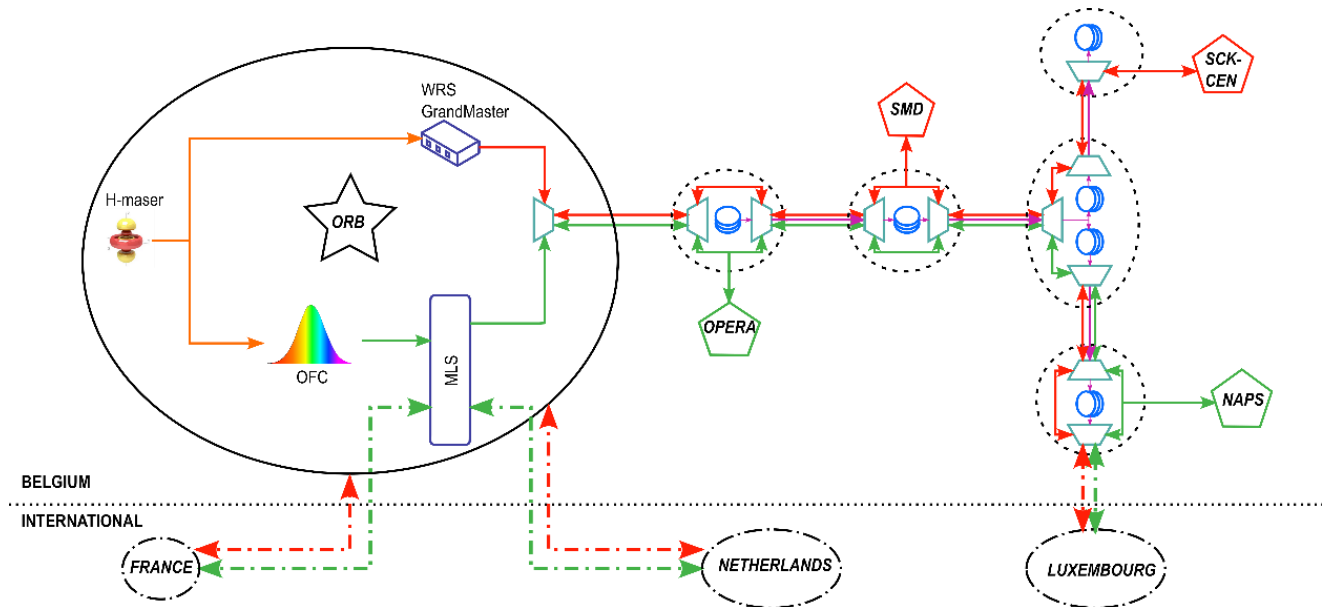


FIG 1. Simplified topology of the initial BOOSTED network (red : time ; green : frequency; violet : data)

On one side, timing services, limited for now in Belgium to NTP and PTP, will be extended to White Rabbit technology. On the other side, the project aims to make available to the whole country the frequency of UTC(ORB) based on a H-maser, thanks to the conversion from RF to optical domain using a frequency comb. This frequency services will rely on technologies compatible with the French T&F network REFI-MEVE, using mainly regenerative laser station (RLS) manufactured by EXAIL. The simplified topology of the future initial BOOSTED network is illustrated in Fig. 1, with the first identified users: research centers (OPERA, NAPS, SCK-CEN) and metrology service (SMD).

Finally, the ROB also supports actively the development of the future pan-European T&F network, in close cooperation with Géant organization and others metrological institutes by the investment into larger equipment (MLS, see Fig. 1) acting as a splitter and a relay between the different countries (Belgium-France and Belgium-Netherlands) and even further (Belgium-Luxembourg) taking full advantage of the very high performances of the stabilized optical fiber links.