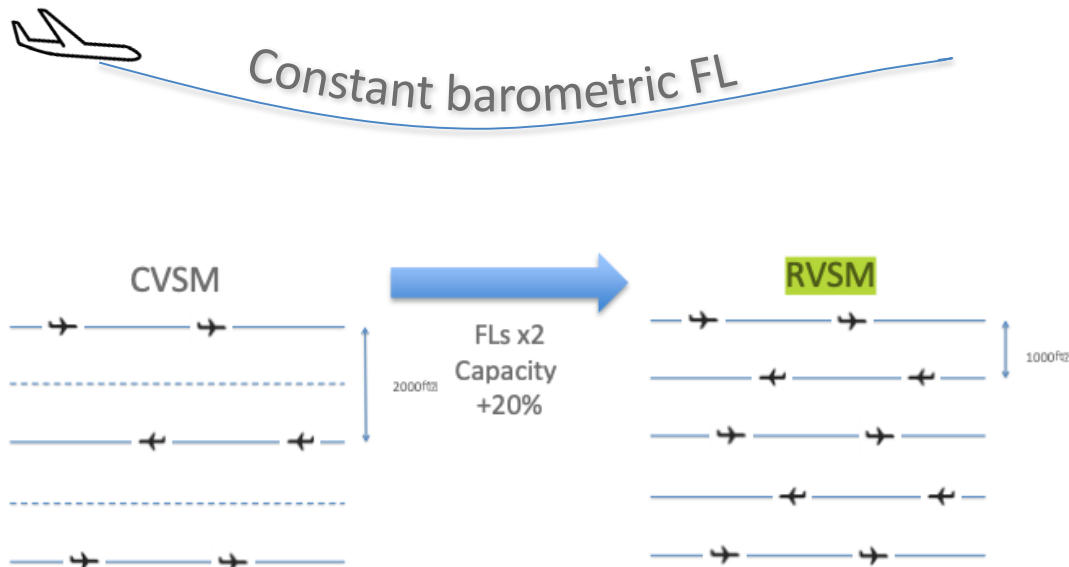


Geometric altimetry and “RVSM Phase 2”

If all aircraft are equipped with GNSS, why continue using the “old” (and less precise) barometric altimetry

Expected environmental benefits of geometric altimetry:

- Avoid climb/descent when flying at (barometric) level flight across isobars
- RVSM Phase 2: Vertical separation minima reduced to 500 ft between for typical M aircraft types.
- May not be applicable in all atmospheric conditions.
- RVSM Phase 2 will allow the use of the intermediate flight levels 245, 265... including in current RVSM airspace, e.g., ... 285, 295, 305, 315, 325...) all the way to higher airspace.
- No loss of airspace in transition layer
- Facilitates integration with drones
- Safety benefit: some aircraft types may need separation >1,000 ft under certain atmospheric conditions, 1,500 ft minima compatible with even-odd flight-level scheme.
- **LONG-TERM, due to the geometric altimetry requirement.**



No **environmental assessment** if yet available for these concepts. As an indicative figure for **RVSM Phase 2**, EUROCONTROL study (8) showed that the introduction of RVSM over Europe might result in a reduction in fuel burn and CO2 emissions of **1.6–2.3%** over the prior conditions. It is expected that savings for RVSM Phase 2 would be of a similar order of magnitude.

References:

- For RVSM Phase 2, please see report on SESAR [R-WAKE project, results and ER4 call specifications](#) (section 3.3.5).
- For geometric altimetry, please see “[From barometric to geometric altimetry](#)” by Bill Holtzmann, presentation at the SESAR Digital Academy Webinar: Exploring the future vision and technological innovations in CNS
- (*) Jelinek, Carlier, Smith and Quesne, 2002, The EUR RVSM Implementation Project - Environmental Benefit Analysis).
EUROCONTROL Experimental Centre