A second observation network: the EPI measurement from Oslo, 27 October 2026

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Summary

The same measurement of the Epidemic Perturbation Index (EPI), run from the Wi-Fi network of BI Norwegian Business School in Oslo, agrees with the Verona measurement of the same declared day on 287 of 303 sources (94.7%). Of the 16 differences, 14 are sources that one of the two networks could not read, so the difference cannot be attributed to the source; in 2 cases both networks read something, and read different things.

This is a single measurement from a second network, taken while the series is still in calibration. It is not an index, it neither confirms nor refutes any hypothesis, and it says nothing about the transparency of any country's health reporting. It shows how much what the instrument can read depends on where it is run.

Objective and background

The EPI (Epidemic Perturbation Index) is one of the indices of the BSR Observatory of the ISR Institute, built by reading public health sources only; one of its bands concerns the opacity of the sources. The protocol (EPI-PIANO-1.1, EPI-COLLETTORE-1.1) commits the Institute to repeat the measurement from a second network before publishing any figure in the opacity band: what the instrument can read depends also on where it runs, and an apparent silence may be the network's silence rather than the source's.

Until October 2026 all measurements came from the Institute's seat in Verona, plus one comparison from a phone hotspot. This is the first measurement made in another place by another operator, under the research agreement between the ISR Institute and BI Norwegian Business School.

Method

The measurement uses plan EPI-PIANO-1.1: 303 public health sources, 99 of which are Russian regional registers, queried by collector EPI-COLLETTORE-1.1 with the SONAR 5.1 instrument. Each source receives one reading: *readable*, *empty*, *unreadable* (the connection arrives but the certificate cannot be verified), *unknown* (no reading could be established) or *no channel*. Probe settings are the same in every measurement: a 25-second wait per source, one attempt, up to twenty resumptions with a 60-second reconnection wait.

Because changing place changes the instrument of observation, every measurement carries a declared *observatory*. The Oslo one is EPI-OSSERVATORIO-5.0: operator Francesco Ravazzolo, Wi-Fi network of BI Norwegian Business School, certificate store the macOS default, on a MacBook Air laptop. The Verona

one (EPI-OSSERVATORIO-2.0): Wi-Fi network of the Institute's seat, macOS default certificate store with no national roots added.

To compare two measurements we count the common sources, the identical readings and the differences. A source is *cleared* when exactly one of the two readings is *unknown*: in that case the silence did not belong to the source.

Results

Readings by observatory, 303 sources each.

Measurement	Declared day	Recorded (UTC)	Readable	Empty	Unreadable	Unknown	No channel
Oslo (5.0)	27 Oct 2026	28 Oct, 17:15	140	1	33	122	7
Verona (2.0)	27 Oct 2026	27 Oct, 10:04	144	1	33	118	7
Verona (2.0)	28 Oct 2026	28 Oct, 17:47	143	2	35	116	7

Comparison between pairs of measurements.

Pair	Common sources	Identical readings	Different	Of which cleared
Verona 27 Oct – Oslo 27 Oct	303	287 (94.7%)	16	14
Verona 27 Oct – Verona 28 Oct (same network, one day apart)	303	297 (98.0%)	6	4

Of the 16 Verona–Oslo differences, 15 concern national sources and 1 a Russian regional register. In 14 of them one network could not establish a reading. In the other 2 both networks read something and read different things: one source is readable from Oslo and unreadable from Verona, another the opposite. Those 2 are the cases that deserve a closer look.

Of the 99 Russian regional registers, Verona and Oslo read the same two as readable and agree on 98; the one that differs is unreadable from Oslo and unknown from Verona. This comparison has a blind spot: both networks are European, and an obstacle common to both, such as a filter applied on the Russian side to connections from abroad, would not be visible to it.

For scale, the two Verona measurements one day apart (same network) differ on 6 sources, against 16 between Verona and Oslo. The network seems to matter, but with a single measurement from Oslo it is not possible to say how much of the difference is the network and how much the day.

Limitations and a provenance correction

One measurement, in calibration. The EPI series opened on 12 October 2026 and remains in calibration until mid-November. No figure in the opacity band is published, and the 94.7% above is not an index: it is a way of seeing how much the instrument depends on place. It says nothing about epidemics or about the transparency of any country.

Declared day versus recording time. The Oslo measurement is declared for 27 October but was recorded on 28 October at 17:15 UTC; the Verona measurement it is compared with was recorded on 27 October at 10:04 UTC. "Same day" therefore means the same declared day, not the same hour, and the gap of about 31 hours is part of what the comparison cannot separate from the effect of the network.

A defect found and declared. When the Oslo file was imported, the instrument accepted without warning provenance fields that still held the probe's example text, in angle brackets, for the network and for the certificate store. The certificate store says which authorities the measuring computer trusts and changes what a secure connection can reach, so it is part of the provenance, not a formality. We corrected the instrument, which now refuses an unfilled provenance and allows it to be rectified in writing, keeping the previous text and leaving the readings untouched. The Oslo measurement was then rectified as described in the Method section; the example text remains recorded as previous text, and the readings are unchanged: 303 sources, same distribution as before.

Scope of the comparison. Both networks are European and both used the macOS default certificate store. Obstacles common to both are invisible to this comparison.

Declarations

Each item below must be confirmed or corrected by the authors before signature.

Contributions. F. Ravazzolo ran the probe from the BI Norwegian Business School network and returned the measurement file. P. Domenichini designed the protocol and the instrument and carried out the comparison.

Data. The observatory maps (one file per measurement and observatory: Oslo 27 October, Verona 27 and 28 October 2026) are held in the Institute's archive. The identifier of the measuring computer, present in the original file, is not published.

Funding and relations. The measurement was made under the research agreement between the ISR Institute and BI Norwegian Business School. The ISR Institute is an unregistered voluntary association. It has no contractual, financial or other tie with STAIRS S.r.l.; P. Domenichini's interest in that company is declared on the Institute's website.

Signature.

Francesco Ravazzolo, ISR Institute, Verona, and BI Norwegian Business School, Oslo — date and signature: _____

Pietro Domenichini, ISR Institute, Verona — date and signature: _____

References

- ISR Institute, BSR Observatory, Weekly Bulletin no. 6 (note "Una seconda rete, a Oslo"), Zenodo, DOI 10.5281/zenodo.23841684.
- ISR Institute, EPI protocol and amendments (EPI-0.3, EPI-0.4 and later), Zenodo, concept DOI 10.5281/zenodo.23237586.
- Instrument and plan: SONAR 5.1; EPI-PIANO-1.1; EPI-COLLETTORE-1.1; observatories EPI-OSSERVATORIO-2.0 and EPI-OSSERVATORIO-5.0.

Figures in this report were recomputed on 2 November 2026 from the three observatory map files; the Italian note in Bulletin no. 6 gives the same Verona–Oslo result.