Milan - Rome Contradiction

From: UncleVaxx <UncleVaxx@proton.me>

To: denis.rancourt@gmail.com

Date: 2026-09-27 12:31 p.m.

G'Day Dr. Denis Rancourt,

I appreciate all your work in attempting to bring
sanity back into scientific fashion. Congrats.

I'll spare you my sob story just that any
'cancellation' is not manageable for me.

The reason for contacting is what I believe is one key
variable in the mix. I've believed this for 30+ years but
perhaps the pandemonium has brought it into focus.
EMF.

I had to push AI a bit but did not keep going since
this idea is 'out there' and there is the value of 'fresh eyes'.
Here, your jack-of-all-science-trades view is critical.

And I didn't want my biases to overwhelm so left it to AI.
No attachments or links.

First, the AI - *I listed some mechanisms
to link this 'agent' to respiratory illnesses).*

The mechanisms you list each connect to respiratory disease at a different point. Every pathway has two links: EMF → mechanism, and mechanism → respiratory disease. The second link is usually well established in respiratory medicine. The first link is where the evidence is contested. None of these mechanisms is established at real-world exposure levels: independent replications have been inconsistent, and the WHO-commissioned reviews rated them low or very low certainty. So what follows is the hypothesized pathway for each, with the strength of each link graded separately.

Proposed mechanism	Hypothesized respiratory pathway	Link 1: EMF → mechanism	Link 2: mechanism → respiratory disease
Calcium influx via voltage-gated calcium channels (Pall 2013)	Ca^{2+} influx → nitric oxide + superoxide → peroxynitrite → airway inflammation and damage to the lining of the airways. Separately, raised Ca^{2+} in airway smooth muscle drives bronchoconstriction and mucus secretion.	Pall cites ~24 studies where calcium channel blockers blocked EMF effects. Earlier Ca^{2+}-efflux work (Adey, Blackman) replicated inconsistently. No studies measure this in airway tissue.	**Strong.** Peroxynitrite is elevated in the airways of people with asthma and COPD, and Ca^{2+} signalling directly controls airway smooth muscle tone.
Oxidative stress	ROS → lipid peroxidation in airway lining → inflammation, damage to the airway lining, and COPD-type damage	Yakymenko 2016 review: ~93 of 100 studies reported oxidative effects. The 2024 WHO review (Meyer et al.) found the evidence very uncertain, largely because of study quality. Some rodent studies report raised malondialdehyde (a lipid-damage marker) in lung tissue after 900/1800 MHz exposure.	**Strong.** Oxidative stress is central to COPD and asthma pathogenesis.
Mast cell activation (Johansson, Karolinska)	Degranulation → histamine, tryptase, leukotrienes → bronchoconstriction and allergic airway inflammation	Increased mast cell density found in the skin of self-reported electrohypersensitive individuals and after screen exposure. The studies were small, not blinded, and looked at skin, not airways.	**Strong.** Mast cells are primary drivers of allergic asthma.
Barrier permeability	Loosening of the tight junctions between	Lund rat studies showed albumin leakage across	**Moderate–strong.** Barrier

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(BBB, Salford/Persson)	cells → by analogy, a leakier airway lining → more allergens and irritants get in	the BBB. Most replications (Finnie, de Gannes 2009, others) failed. The effect on airway barriers has never been tested.	dysfunction is an active research model for asthma.
Raised CRP / systemic inflammation	Low-grade systemic inflammation → more frequent asthma and COPD flare-ups	Sparse data: small human studies and some rodent studies, with inconsistent results.	**Moderate.** Elevated CRP predicts COPD flare-ups and lung-function decline.
Stress / HPA axis / sleep	Cortisol or catecholamine changes, or poor sleep and less melatonin → weaker immune regulation and worse asthma control	Biological effects are inconsistent. Stress from concern about exposure (the nocebo effect) is well documented in provocation studies.	**Strong.** Psychological stress and poor sleep both measurably worsen asthma.

Milan & Rome
New York & California

when did 5G rollout in Milan Italy and when did 5G rollout in Rome

11:10 a.m.

Commercial 5G service rolled out in both Milan and Rome in June 2019, [Ed Note: This is Italian Baloney as we see later] making Italy one of the earliest adopters of the technology in Europe. [1]

Because multiple telecommunications providers roll out networks independently, the exact timeline varied slightly depending on the city and the carrier:

5G Rollout Timeline

City	Operator	Launch Date	Details
Milan	Vodafone Italy	**June 16, 2019**	Launched as part of an initial 5-city rollout. Milan was heavily prioritized and fast became a core hub for 5G development.
	TIM (Telecom Italia)	**Late 2019**	TIM began expanding its network to Milan later in the year after its initial summer launches.
Rome	Vodafone Italy	**June 16, 2019**	Switched on simultaneously with Milan.
	TIM (Telecom Italia)	**June 24, 2019**	Launched its initial "TIM Advance 5G" network across parts of Rome and Turin.

Would you like to know more about the **current 5G coverage map** in Italy, or are you looking for details on **specific Italian mobile providers** and their data speeds?

- Telecompaper
  Vodafone Italia to expand 5G to '50-60 cities' this year
  Vodafone Italia to expand 5G to '50-60 cities' this year - CEO News Wireless Italy 11 OCT 2021 Vodafone Italia is on track to doub...
  
- Opensignal
  The rural urban divide widens with 5G rollouts in Italy
  Italian operators first deployed their 5G commercial services in June 2019 and December 2020, while focusing their initial roll-ou...
  
- Light Reading
  TIM Launches 5G Services - Light Reading
  July 7, 2019 6 Min Read Light Reading logo in a gray background | Light Reading ROME -- TIM is launching the digital transformatio...
  

Show all

You said: I'm looking for a differences in activation, penetration, number of towers, etc. between the two cities.

> I'm looking for a differences in activation, penetration, number of towers, etc. between the two cities.

11:10 a.m.

When comparing the 5G landscapes of **Milan** and **Rome**, the two largest metropolitan areas in Italy present radically different profiles in terms of geographic penetration, cell tower infrastructure, and connection speeds.

While **Milan operates as a highly concentrated, hyper-connected tech hub**, **Rome features a massive geographic footprint with profound infrastructure limitations** forced by its historic architecture. [1, 2]

Core Infrastructure & Performance Comparison

Metric	Milan	Rome
Activation Strategy	High density, tech-centric commercial priority.	Broad, slow-moving historic center navigation.
Average 5G Download Speed	**~329 Mbps**	**~277 to 325 Mbps**
Tower Density / Footprint	Extremely high density; compact territory (182 km²).	Dispersed; massive municipal territory (1,285 km²).
Network Reliability	Suboptimal/Intermittent.	Slightly higher success rate but slower speeds.

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1. Tower Density and Distribution

The physical layout of the two cities dictating their cellular tower infrastructure is the largest differentiator:

- **Milan's Compact Grid:** Milan's municipal size is relatively small (182 km²). Carriers have built out a highly dense network of macro towers and **5G small cells** integrated into urban street furniture (such as smart lampposts and bus shelters). This yields a much higher tower-per-square-kilometer density, translating to strong indoor penetration and exceptionally stable signals across its business districts. [1]

- **Rome's Geographical Spread:** Rome's total land area is seven times larger than Milan's (1,285 km²). This requires an exponentially larger number of towers just to achieve the same geographic baseline. Furthermore, rigid historic preservation laws tightly regulate the city's *Centro Storico* (Historic Center), preventing carriers from setting up large, prominent antennas on ancient structures. This creates notable coverage patches where networks rely heavily on distant macro-towers. [1, 2]

2. Network Penetration & Experience Metrics

Despite Italy's early 2019 rollout, European telecommunications benchmarks (such as MedUX and Ookla) highlight that both cities are still chasing full-tier network registration compared to northern European hubs: [1]

- **Speeds:** Milan consistently edges out Rome in raw performance, clocking average 5G download rates around **329 Mbps** compared to Rome's **325 Mbps** (with some localized tests dropping closer to 277 Mbps). [1]
- **The "Quality vs. Coverage" Divide:** According to recent 5G Quality of Experience (QoE) analyses, Rome actually has a slightly higher overall test completion and network availability rate (**99.60%**). However, its speed drops significantly under heavy tourist strain. Milan delivers higher top-end data speeds but suffers from intermittent signal drops due to blockages from modern steel-and-concrete high-rises. [1]

3. Activation & Commercial Priorities

- **Milan (The Business Testing Ground):** Milan was designated early as an official 5G trial city by Vodafone and TIM, creating a highly eager market of corporate users and early adopters. Commercial activation prioritized the subway systems, exhibition halls (Fiera Milano), and financial districts.
- **Rome (The Civic & Tourist Network):** Rome's network activation focuses on managing immense congestion peaks rather than corporate data links. Carriers like Vodafone Italy and TIM have historically designed Rome's network around high-capacity transit hubs (such as Termini Station) and tourist corridors to balance the massive data demands of seasonal crowds.

Are you analyzing these differences for **travel planning/remote work**, or are you looking into the **technical spectrum bands** (like millimeter wave vs. mid-band) utilized by the Italian operators?

You said: ***I'm looking for a specific time period 2020 and 2021. Same information, same questions, but within that calendar.***

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11:13 a.m.

During the **2020 and 2021 calendar years**, the 5G differences between Milan and Rome were starker than they are today. During this phase, 5G transitioned from an experimental "early adopter" status into early mainstream deployment.

Milan took a decisive lead in network penetration and physical tower density, while **Rome lagged significantly due to strict regulatory delays and pandemic-era construction freezes** in historic zones.

2020–2021 Snapshot: Key Metric Breakdown

Metric (2020–2021)	Milan	Rome
Activation Priority	Heavy industrial, corporate, and public transit integration (e.g., full subway coverage).	Experimental transit hubs and localized airport rollouts only.
Commercial Coverage	Widespread commercial availability across the municipality by late 2021.	Highly patchy; restricted mostly to select outer suburbs and business districts.
Average 5G Download Speed	**~150 to 270+ Mbps** (highly dependent on carrier).	Highly volatile; **~60 to 140 Mbps** on early standalone tests.
Dominant Deployment Tech	Mid-band (**3.7 GHz**) macro towers combined with dense street-level small cells.	Heavy reliance on Dynamic Spectrum Sharing (**DSS**) over older 4G infrastructure.

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1. Activation Timelines & Commercial Priorities

- **Milan's Aggressive Subway & Corporate Push:** By late 2020, carriers like Vodafone Italy and TIM had prioritized Milan for complete urban saturation. Throughout 2021, a massive commercial push saw Milan become one of the first cities in Europe to get fully functional **5G on its subway lines** (M4 and parts of M1/M2/M3). Activation was tailored explicitly to the needs of working professionals and the tech sector. [1, 2]
- **Rome's Fragmented Hub Deployment:** During 2020 and 2021, Rome's activation was entirely decentralized. Instead of blanket city coverage, infrastructure was localized around single high-value infrastructure projects. For example, in late 2020, TIM and Ericsson activated dedicated 5G connected technologies

specifically at **Leonardo da Vinci Fiumicino Airport**, leaving large swathes of residential and historical Rome waiting until the government injected €2.02B via the Italian Recovery and Resilience Plan in late 2021. [1]

2. Physical Tower Count and Density

The gap in active cell sites between the two cities reached its peak during this period:

- **The Milan Small-Cell Boom:** Because Milan features compact geography, operators were able to rapidly upgrade existing towers and launch new micro-antennas. By mid-2021, Milan boasted a massive tower density per square kilometer. Network operators successfully utilized a **5G RAN sharing strategy** mediated by INWIT (Italy's largest tower operator), allowing multiple carriers to use the same physical masts to quickly blanket the city.
- **Rome's Architectural Bottleneck:** In 2020 and early 2021, Italy maintained some of the strictest **electromagnetic field (EMF) emission limits** in the world, which capped the power output of cellular towers. In Rome's massive geographic sprawl, this meant carriers needed thousands *more* towers than they did in Milan to achieve the same coverage. Coupled with Rome's strict heritage protections, operators couldn't get permits to mount antennas in the historic center, leaving Rome's center heavily reliant on distant macro-towers located in the outskirts.

3. Penetration & Speeds (The DSS vs. True 5G Divide)

- **True 5G vs. "Fake" 5G:** To claim they had coverage in Rome during 2020–2021, carriers like WindTre relied heavily on **Dynamic Spectrum Sharing (DSS)**. DSS splits existing 4G lanes to show a "5G" icon on your phone but results in speeds barely faster than standard LTE (~60–100 Mbps).
- **The Raw Speed Gap:** According to Opensignal's 2021 Italy Reports, users on TIM's true mid-band 5G network experienced blazing average download speeds of **273.7 Mbps**—a metric heavily driven by their optimized infrastructure in Milan. Meanwhile, large-scale vehicular network testing conducted in Rome across late 2020 and early 2021 revealed massive volatility, showing that Rome's network throughput routinely throttled down under the weight of basic urban congestion due to the lack of dedicated 5G spectrum backbones. [1, 2, 3]

If your interest and expertise can 'roam' a little further...
I believe this is rat's nest awaiting discovery.

P.S. if you have a proton account and care to receive information please let me know.

Take care,

UV

Sent with Proton Mail secure email.