

Rollout, Take Up, Migration, Open Access

Fiber Market Features compared



Germany



Norway



Austria

Dr. Ernst-Olav Ruhle

Oslo, 16/17.9.2026

VATM / OFAA / Fiberforening Excursion to Norway



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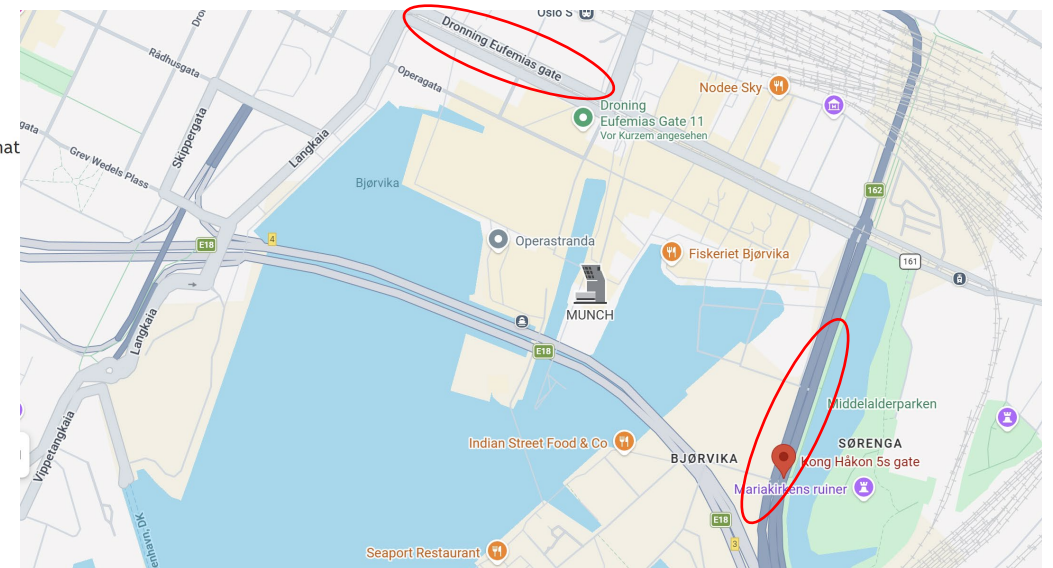
Eufemia von Rügen

um 1276-1312, Norwegische Königin

Kultureller Glanz für Europas Norden

Wahrlich verlassen musste sich Eufemia, Tochter des Rügenfürsten Witzlaw II., gefühlt haben, als sie zu Beginn des Jahres 1299 durch die eisige Nordsee ihrer Zukunft entgegenfuhr. Wie konnte sie ahnen, dass ihr Name rund 700 Jahre später vielen skandinavischen Schüler:innen ein Begriff sein würde? Dass sie als eine Begründerin der schwedischen Literatur in die Geschichte eingehen sollte? Und im Oslo von heute sogar eine Magistrale den Namen »Dronning Eufemias Gate« (Straße der Königin Eufemia) trägt?

Die Fürstentochter war gewiss nicht gefragt worden, ob sie mit dem norwegischen Herzog und Königsbruder Håkon Magnusson ihr Leben verbringen wollte. Sie war, ebenso wie andere adlige Frauen, Spielball politischer Interessen. Mit ihrer Vermählung gewann der Rügenfürst erhebliches Prestige im damaligen Machtgefüge Nordeuropas. Gefühle hat da keinen Platz.

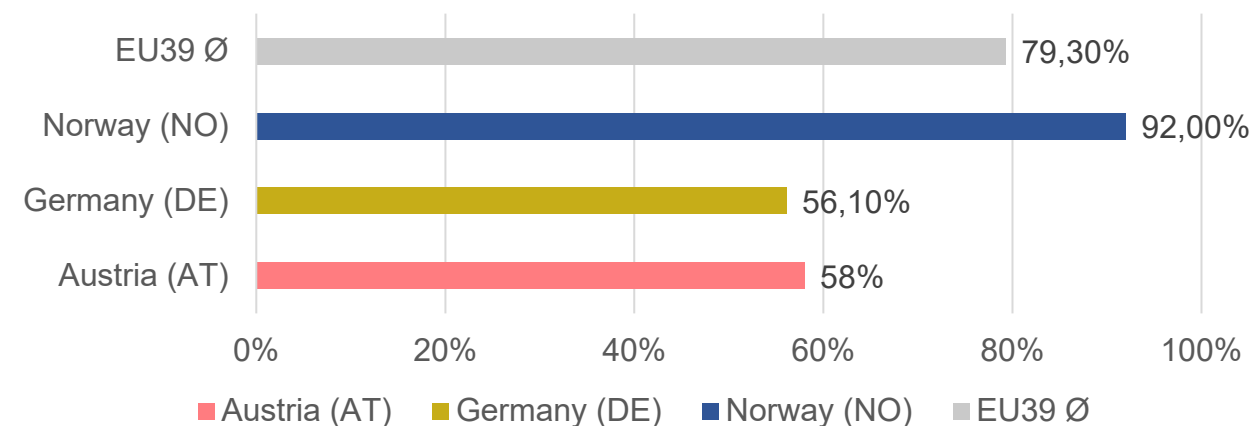


<https://frauen-in-mv.de/eufemia-von-ruegen/>

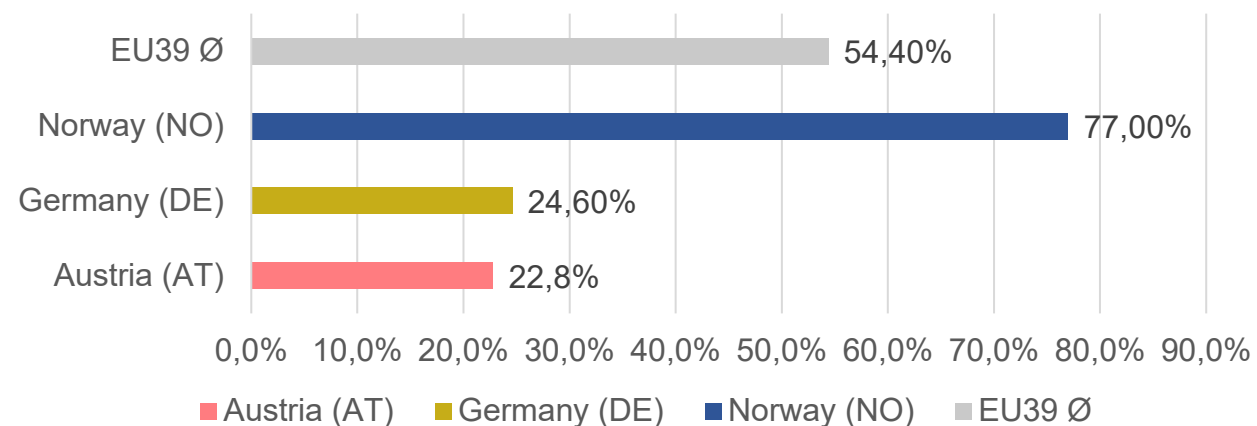
Households, Coverage & Take-up Rate in comparison

	AT	DE	NO
Total households	4.17 Mil.	44.2 Mil.	2.6 Mil.
Homes Passed (HP)	2.42 Mil.	24.8 Mil.	2.4 Mil.
Homes Activated	0.55 Mil.	6.1 Mil.	1.85 Mil.

Coverage Rate (Homes Passed / households)



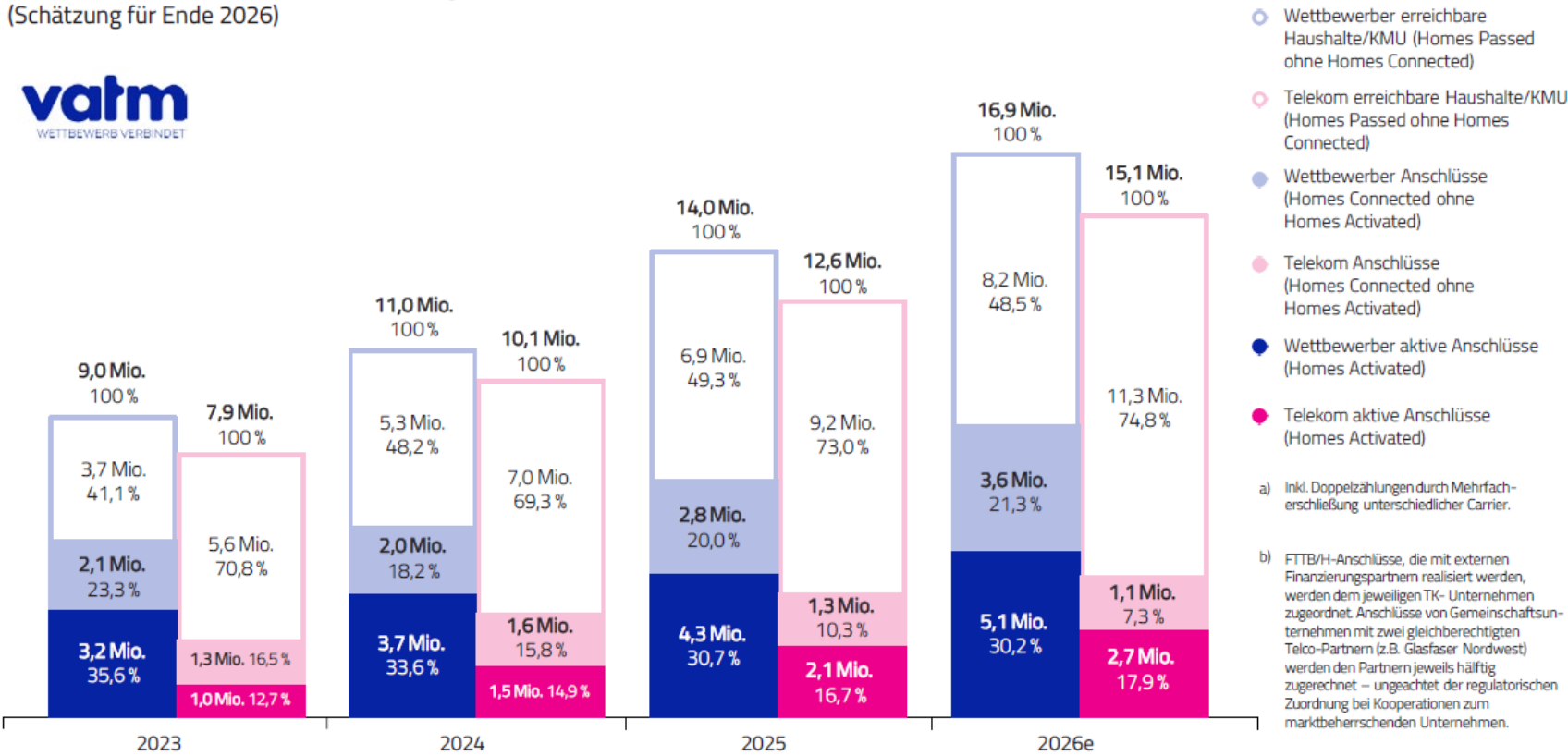
Take-up Rate (Homes Activated / Homes Passed)



Data: FTTH COUNCIL



Abb. 15: Mit Glasfaser erreichbare^a, versorgte und aktive Haushalte^b nach Anbietern
(Schätzung für Ende 2026)



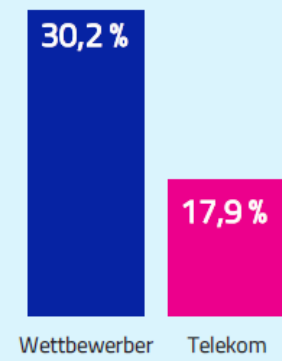
- Wettbewerber erreichbare Haushalte/KMU (Homes Passed ohne Homes Connected)
- Telekom erreichbare Haushalte/KMU (Homes Passed ohne Homes Connected)
- Wettbewerber Anschlüsse (Homes Connected ohne Homes Activated)
- Telekom Anschlüsse (Homes Connected ohne Homes Activated)
- Wettbewerber aktive Anschlüsse (Homes Activated)
- Telekom aktive Anschlüsse (Homes Activated)

a) Inkl. Doppelzählungen durch Mehrfacherschließung unterschiedlicher Carrier.

b) FTTH/H-Anschlüsse, die mit externen Finanzierungspartnern realisiert werden, werden dem jeweiligen TK- Unternehmen zugeordnet. Anschlüsse von Gemeinschaftsunternehmen mit zwei gleichberechtigten Telco-Partnern (z.B. Glasfaser Nordwest) werden den Partnern jeweils hälftig zugerechnet – ungeachtet der regulatorischen Zuordnung bei Kooperationen zum marktbeherrschenden Unternehmen.

Take-up-Rate

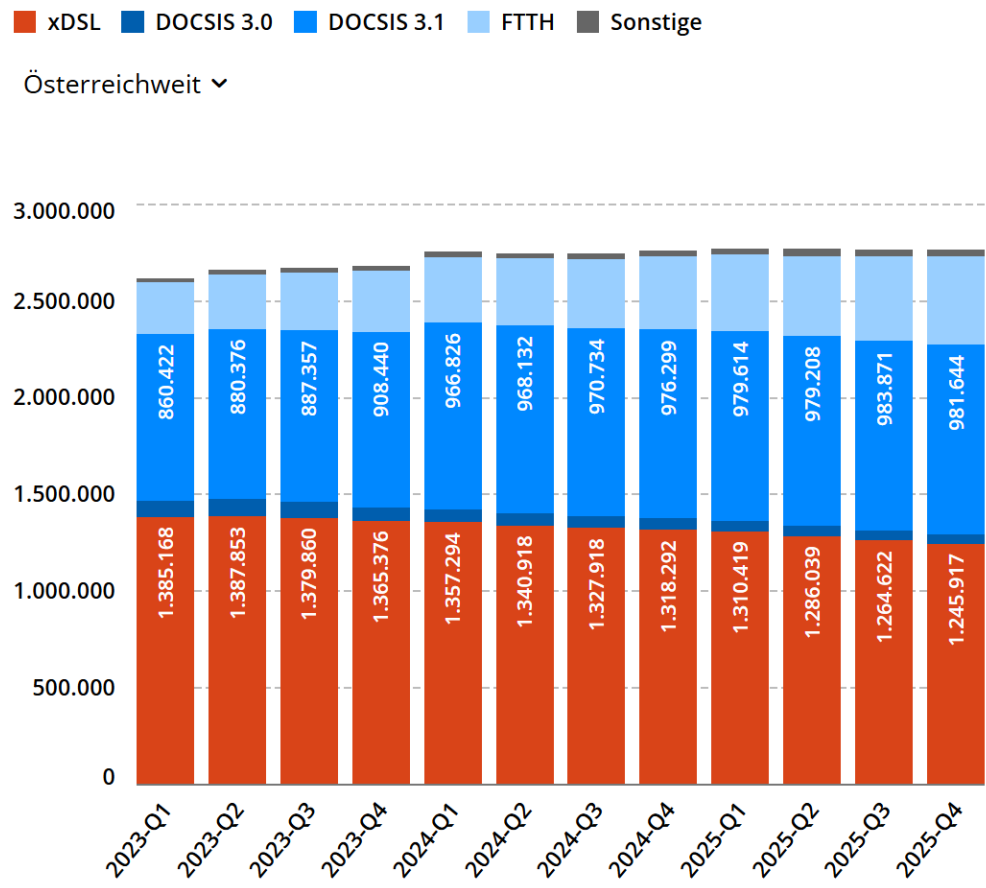
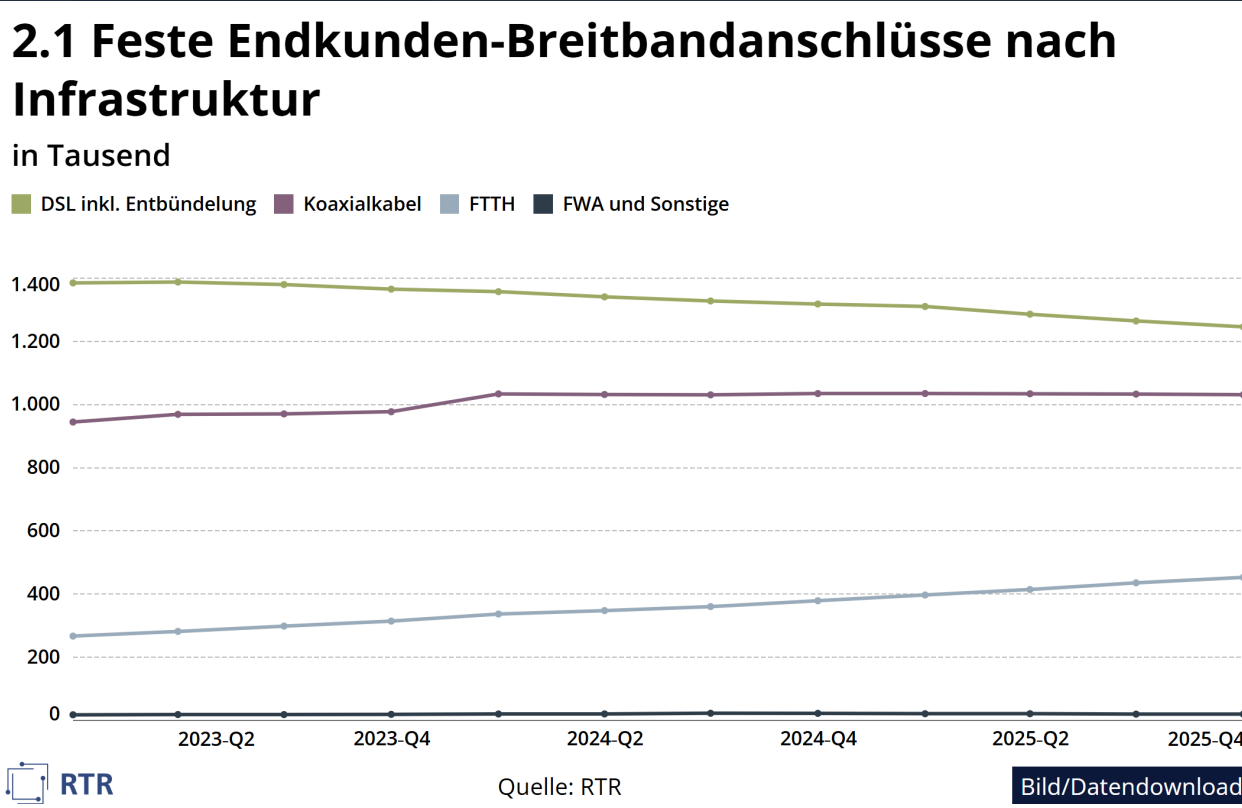
aktiv genutzte
Anschlüsse
(Homes Activated)
2026e



Fiber rollout and usage/take up:

- > 7.8 million homes/enterprises activated (HA – 2026e)
- Further > 4.7 million homes/enterprises connected (HC – 2026e)
- further 19.5 million homes/enterprises passed (HP – 2026e)
- but still >> 20 mil. homes on copper / HFC

Source: VATM / Dialog Consult



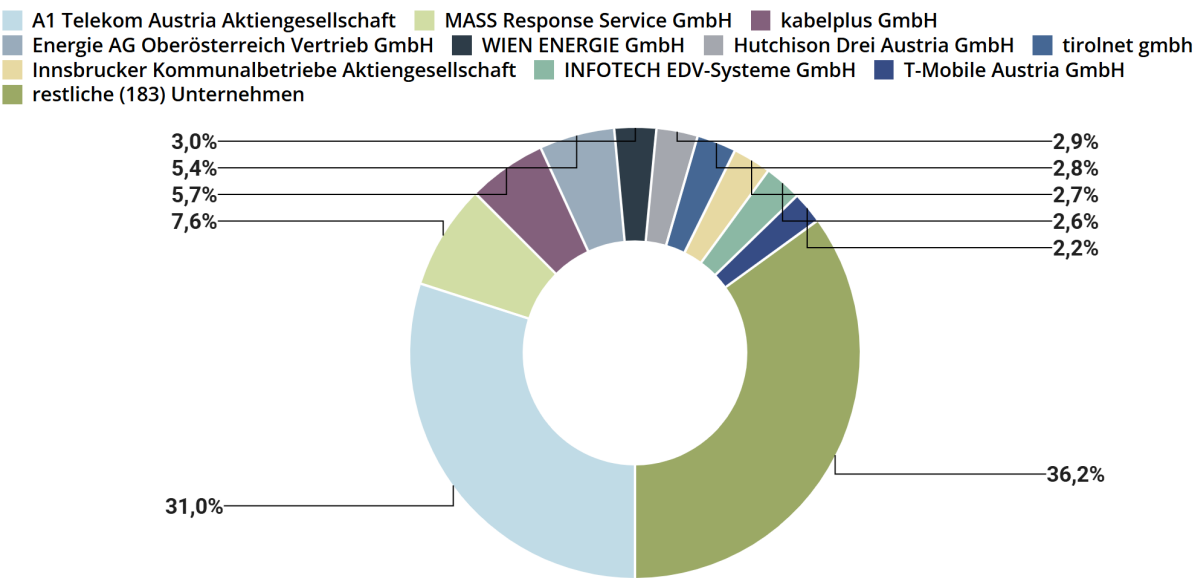
Fiber rollout and usage/take up:

- Fixed broadband dominated by xDSL and HFC
- Close to 450,000 Homes Activated on fiber so far

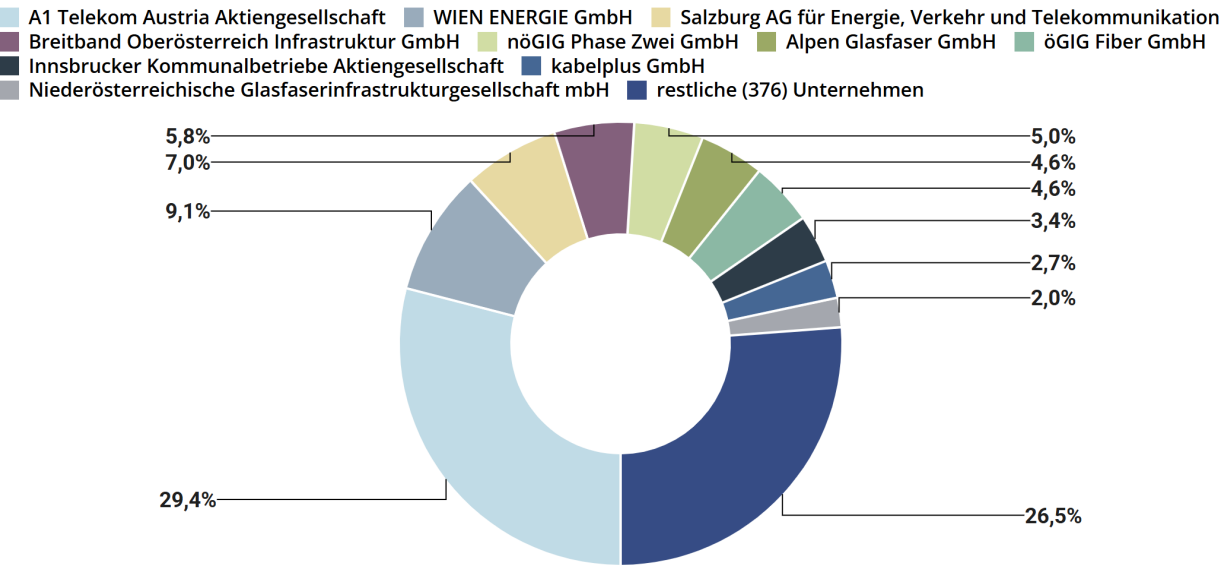
Largest operators (Homes Activated)

Largest operators (Homes Passed)

in Q4/2025



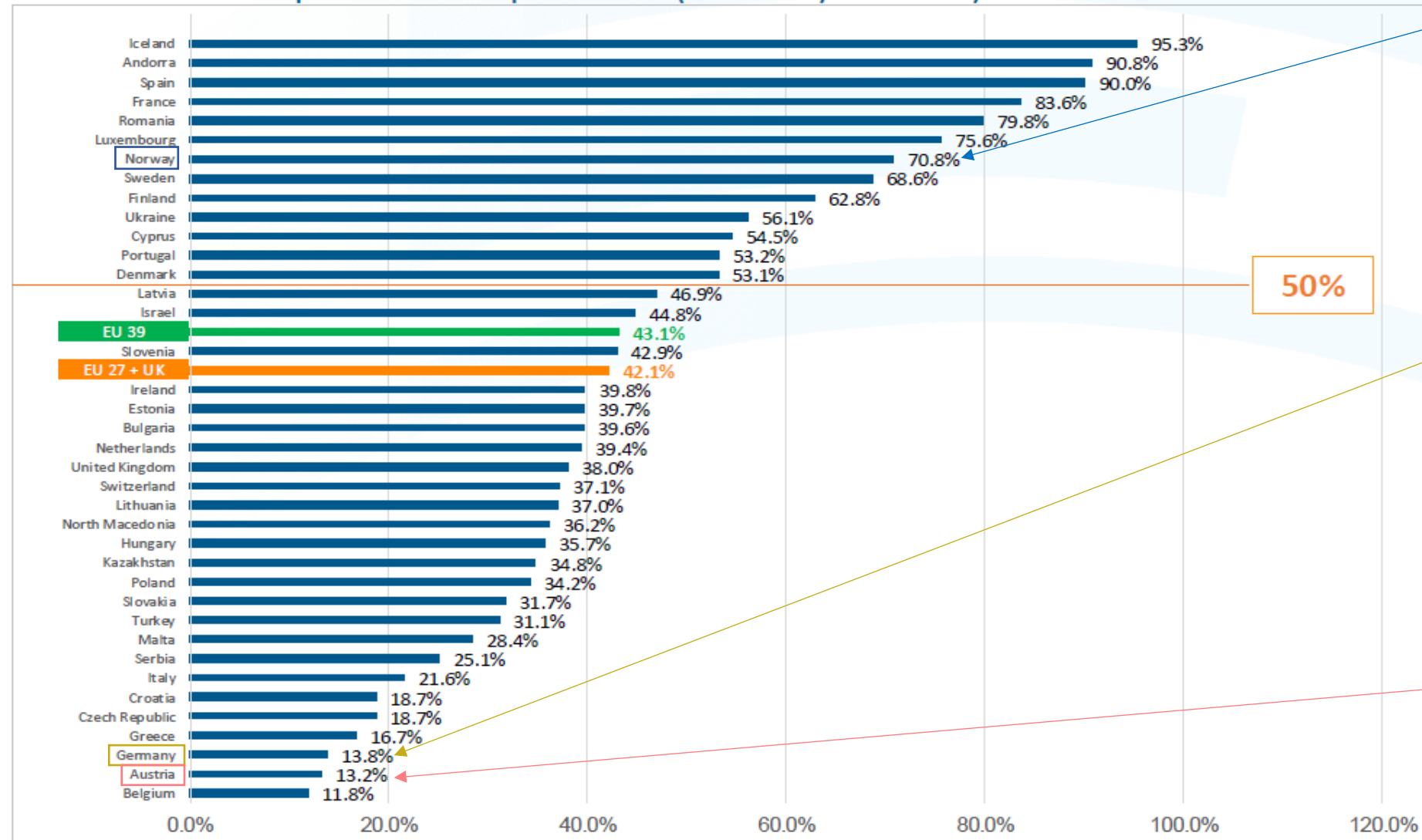
in Q4/2025



Fiber rollout and usage/take up:

- Incumbent has the largest share in FTTH - HP and HA, however, less than in other European countries
- Utility based regional operators also have a significant share in the market (Wien Energie, Energie AG OÖ, Salzburg AG, IKB)

Penetration rates of European countries - September 2025 (Subscribers / Households)



NO Norway

7/39 (Penetration)

▲ practically fully covered

DE Germany

36/39 (Penetration)

▲ + 4,9 Mio. HP in 2025

AT Austria

37/39 (Penetration)

▲ Rollout accelerated

Retail products demanded (on fiber)

AT Austria

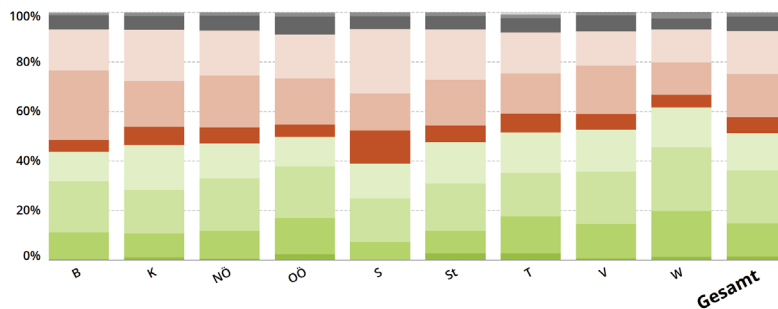
150 – <1.000 Mbit/s

Typical bandwidth: ~150 - < 1 Gbit/s; Asymmetrical services still dominant.

6.6 Nachfrage nach Bandbreitenkategorien

in Q4/2025

■ ≥ 1 Gbit/s ■ ≥ 300 Mbit/s bis < 1 Gbit/s ■ ≥ 150 Mbit/s bis < 300 Mbit/s ■ ≥ 100 Mbit/s bis < 150 Mbit/s
 ■ ≥ 75 Mbit/s bis < 100 Mbit/s ■ ≥ 50 Mbit/s bis < 75 Mbit/s ■ ≥ 30 Mbit/s bis < 50 Mbit/s ■ ≥ 10 Mbit/s bis < 30 Mbit/s
 ■ ≥ 2 Mbit/s bis < 10 Mbit/s ■ ≥ 1 Mbit/s bis < 2 Mbit/s ■ < 1 Mbit/s



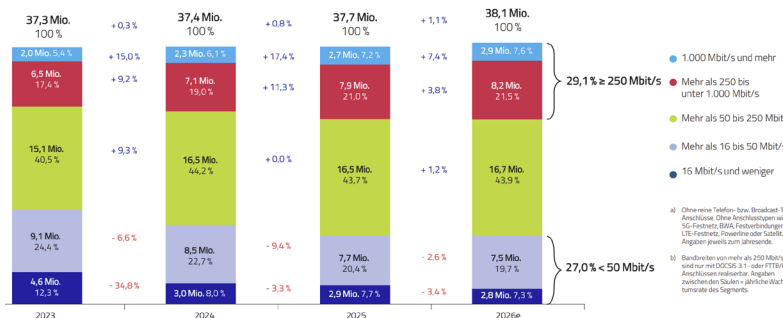
Quellen:

- OFAA Marktstudie 2025: Zuwachs der Anschlüsse mit ≥100 Mbit/s und der Klasse 300 Mbit/s–1 Gbit/s im Festnetz in Österreich (Tabellen zu Anschlussklassen). https://www.ofaa.at/wp-content/uploads/2025/10/OFAA-Marktstudie-2025_Langfassung-1.pdf
- A1-Glasfaser-Tarife (Privatkunden): A1 Glasfaser Internet 250/500/1000 als Standard-Produktlinie, inkl. Preisinformation A1 Glasfaser Internet 500 (regulär 58,90 €/Monat). <https://www.a1.net/internet/glasfaser-tarife>
- SpeedGeo-Statistik „Internetgeschwindigkeit in Österreich“: Q1 2025 durchschnittliche Download-Geschwindigkeit über alle Breitbandanbieter: 78,0 Mbit/s (fester Zugang), 26,4 Mbit/s Upload. <https://www.speedgeo.net/de/statistiken/osterreich>

DE Germany

500 Mbit/s

Typical bandwidth: 300-600 Mbit/s. Overall (incl. copper) still significant share of products < 250 Mbit/s



Quellen:

- VATM/DIALOG-Consult-Analysen zum Gigabit- und Glasfaserausbau: hoher Anteil der Kunden mit Bandbreiten ≥250 Mbit/s und stark wachsender FTTH/H-Anteil, insbesondere in den höheren Bandbreitenklassen. Presse- und Studienhinweise: <https://www.vatm.de/vatm-and-dialog-consult-present-the-26th-telecommunications-market-analysis-for-germany/>
- Verivox-Zusammenfassung zur BREKO-Analyse Ende 2024: 22,5 Mio. Homes Passed (48,8 % Ausbaquote), 11,3 Mio. Homes Connected, 5,9 Mio. Homes Activated. <https://www.verivox.de/internet/nachrichten/glasfaser-rund-25-prozent-der-haushalte-sind-am-netz-angeschlossen-1121117/>

NO Norway

500 Mbit/s – 1 Gbit/s

Typical bandwidth: 500 Mbit/s and above. Higher in SDU than in MDU.

On fiber, symmetrical bandwidths 500 Mbit/s/ and 1Gbit/s are „standard“.

Quellen:

- <https://www.telenor.no/privat/internett/fiber/>
- Nkom, Internett i Norge – Årsrapport 2026, Kap. 1.2, S. 5: https://nkom.no/rapporter-og-dokumenter/internett-i-norge-arsrapport-2026/_attachment/download/59aef001-d805-4661-b6c2-f0c16da4b9ba:49474fa932fb14dfda1d4d1c104dc8c0813b0570/Internett%20i%20Norge%20-%20%C3%85rsrapport%202026.pdf
- 99,3% of homes have access to ≥ 100 Mbit/s, 96,3% to ≥ 1.000 Mbit/s.

Price comparison FTTH

AT Austria	Provider	Product	Bandwidth	Monthly charge
	A1 Telekom Austria (incumbent)	Glasfaser Internet 500	500/200 Mbit/s	€ 58,90
	Magenta Telekom (competitor)	Internet XL	Up to 1 Gbit/s (HFC + fibre)	€ 64,90
	Salzburg AG (regional competitor)	Glasfaser 500	Up to 500 Mbit/s	€ 49,59
DE Germany	Provider	Product	Bandwidth	Monthly charge
	Deutsche Telekom (incumbent)	Glasfaser 600	600/300 Mbit/s	€ 60,95
	Vodafone (competitor)	GigaZuhause 600 Glasfaser	600/300 Mbit/s	€ 54,99
	Deutsche Glasfaser (competitor)	DG premium 500	500/250 Mbit/s	€ 69,99
NO Norway	Provider	Product	Bandwidth	Monthly charge
	Telenor (incumbent)	Fiber 500 (Glasfaser)	Up to 500 Mbit/s	NOK 1148 (€ 104,73)
	Telenor (incumbent)	Fiber 1000 (Glasfaser)	1 Gbit/s symmetrical	NOK 1398 (€ 128,29)
	Altibox (competitor)	Altibox Fiberbredbånd (Glasfaser)	Up tp 500 Mbit/s	NOK 1119 (€ 102,08)
	Altibox (competitor)	Altibox Fiberbredbånd (Glasfaser)	Up to 1 Gbit/s	NOK 1419 (€ 130,55)
	Telia (competitor)	500 Mbit/s	Up to 500 Mbit/s	NOK 1099 (€ 100,26)

*Comparison of standard products; no deals / packages with Mobile /TV, no connection costs etc.

AT: A1 Telekom Austria

Market share: 40,4 % (residential), 69% (business) inkl. Wholesale

Regulation: „it's complicated“

SMP regulation was lifted in 2022 based on voluntary contracts offered by incumbent for VHCN access on wholesale basis; however, in August 2026, the administrative court lifted the decision for formal reasons and thus, the 2017 SMP regime applies to A1 Telekom, however, de facto there is no regulation

Quellen:

- <https://data.breitbandbuero.gv.at/Publikationen/Breitband-Evaluierungsbericht-2023.pdf>
- <https://www.rtr.at/telekom-monitor-q22024> (Q2 2024) UND [RTR Telekom Monitor](#) (Q2 2025)

DE: Deutsche Telekom

Market share: > 65% (inkl. Wholesale)

Regulation: stepwise lifting of SMP regulation

Quelle:

- VATM Marktanalyse 2025

NO: Telenor

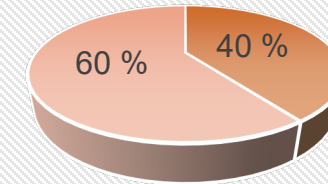
Market share: <= 27% broadband in total

Regulation: (1) Telenor is regulated on markets (3a) and (3b) on fibre as SMP, (2) Additional remedies apply after the acquisition of the B2C Business of Global Connect in June 2026 (3) Nkom is in a process of implementing measures on regional vertically integrated providers + to levy an open access obligation on them; delay for platforms start to Q4/26

Quellen:

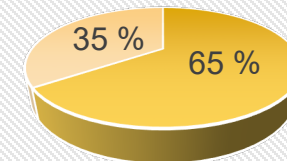
- [https://nkom.no/statistikk/statiske-rapporter-og-analyser/_/attachment/inline/043adde1-4792-47a1-821d-66c645086e35:b7fc0f6620b59e582343a7589cd4205753a4aa2b/Ekomstatistikken%202025%20\(2\).pdf](https://nkom.no/statistikk/statiske-rapporter-og-analyser/_/attachment/inline/043adde1-4792-47a1-821d-66c645086e35:b7fc0f6620b59e582343a7589cd4205753a4aa2b/Ekomstatistikken%202025%20(2).pdf), Figur 20, S. 22
- https://nkom.no/ekom-markedet/nye-analyser-av-bredbandsmarkedene/horing-av-markedsanalyse/_/attachment/inline/b24ef2ec-a6ae-4ad7-bdc7-2fa0a831ee3c:ce684c2a0216891f2dbe0fac240bfff98695e2d92/Analyse%20av%20grossistmarkedet%20for%20tilgang%20til%20faste%20aksessnett%20-%20H%C3%B8ringsdokument%202024.%20mars%202025.pdf

Market share in %



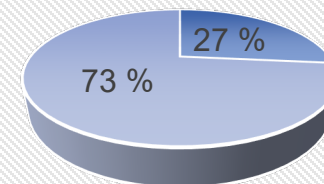
- Incumbent: A1 Telekom Austria AG
- Alternative Anbieter

Market share in %



- Incumbent: Deutsche Telekom AG
- Alternative Anbieter

Market share in %



- Incumbent: Telenor
- Alternative Anbieter



Germany

- Copper –Fiber migration is still on a conceptual level
- Slow migration raises questions about the completion of fibre rollout
- Consolidation accelerates – will large operators regain market power?
- Open Access is developing on L1 and L2
- State aid continues
- SMP regulation still alive



Austria

- Copper –Fiber migration is practically invisible in the public debate
- Uncertainties surrounding the future of state aid
- Open networks are important and 3LOM has been implemented from the start. Different angle towards discussion compared to Germany
- Market analysis and SMP: old SMP decision (stating no regulation) lifted, new market analysis underway. Currently more questions than answers. De facto: SMP status as of 2017 formally, but in practice no regulation, however, voluntary offers for VHCN access by incumbent



Norway

- Fiber rollout very far advanced and available to >> 90% of population, usage likewise high also due to less attractive legacy products
- Fiber is complemented by HFC networks
- Migration to fiber completed september 2025
- Market structure in fiber enabled by local and regional utilities which now partly sell out of their activities in a market tending towards consolidation
- Market in phase of monetarization
- No typical open access country but regional vertically integrated operators. However, broad discussion about when and how to implement open access in regional networks
- TV product is a key differentiator

Dimension	Norway	Austria	Germany
FTTH readiness	Very high	Medium	Medium
Coverage / Take Up	92 / 77	58 / 23	56 / 25
Dominant technology	Fiber	DSL / HFC	DSL / HFC
Relevance of DSL and HFC	Zero	High	Very high
Copper Switch-off	Completed 2025	Not yet started	Conceptual papers and ideas, pilots
FTTH Pricing	High	Low-medium	Low-medium
Symmetrical products	Market standard	increasing	Increasing
Open Access	Not yet there	Growing slow but steadily	Accelerating
SMP-Regulation	Telenor	Abandoned 2022, but decision lifted by Admin. Court in August 2026	Telekom
Infrastructure model	regional + vertical integration	mixed	Fragmented
Role of utilities	Very strong	Significant	Very strong
Overbuild	Partly even FTTH / FTTH	limited	Relevant for FTTH vs. FTTC and partly HFC
State aid	Small but focused	Very important	Important
Market development	monetization	Rollout	Rollout

Would you like to learn about the German and the Austrian fiber market?

SBR-Conference April 29th 2027 Munich



Registration:
[15. SBR-Länderkonferenz zu Glasfaser und Nachhaltigkeit » SBR-net Consulting GmbH](#)

29.04.2027

15. SBR-Länderkonferenz zu Glasfaser und Nachhaltigkeit

Zuletzt aktualisiert: 19.07.2026

SBR-Länderkonferenz gemeinsam mit den Stadtwerken München am 29.4.2027

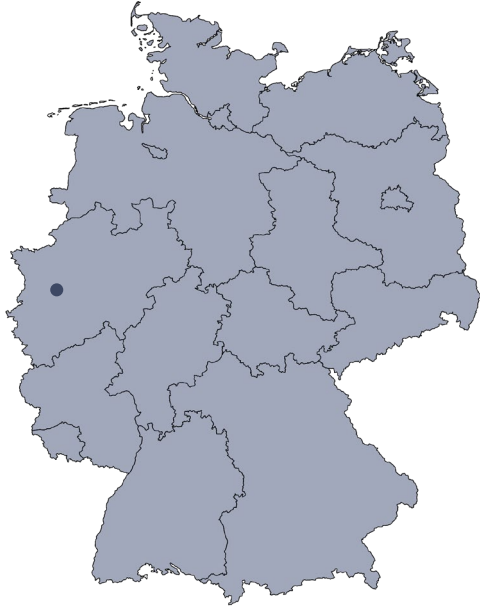
SBR-net Consulting GmbH freut sich, gemeinsam mit den Stadtwerken München die 15. Konferenz zu Glasfaser und Nachhaltigkeit in Deutschland und Österreich am 29.4.2027 zu veranstalten. In der Gaszählerwerkstatt auf dem Gelände der Stadtwerke München freuen wir uns auf spannende Vorträge aus beiden Ländern, neue Themen und Diskussionen mit den Teilnehmenden.

Diejenigen, die die Veranstaltung aus den Vorjahren kennen, können sich auf ein spannendes, aktuell noch in Erarbeitung befindliches Programm freuen und sich hier schon anmelden.

Ein Programmpunkt kann allerdings schon verraten werden - am traditionellen Vorabend können Sie sich auf kurzweilige Stunden im typischen Münchner Stil freuen. Lassen Sie sich von uns in das Augustiner Stammhaus entführen und mit bayerischen Schmankerln kulinarisch verwöhnen. In dem traditionsreichen Wirtshaus, dessen Geschichte über 200 Jahre alt ist, wartet auf Sie ein Bayerischer Abend mit leckerem Oktoberfest-Bufferet (inkl. vegetarischer und veganer Auswahl), frisch gezapftem Fassbier und zünftiger Musik.

Herzliche Grüße von den Stadtwerken München und SBR-net Consulting GmbH

+ pre-evening networking event



Office Düsseldorf

Malkastenstraße 7

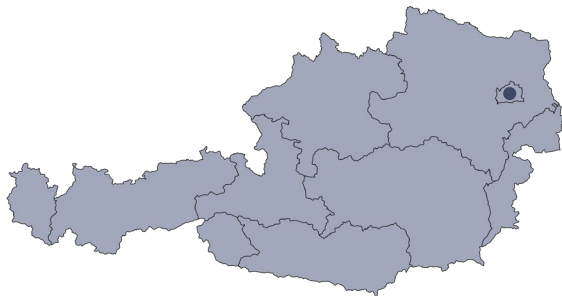
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Rollout

- Norway far advanced
- Germany and Austria at the bottom of EU 39 table

Usage / Take Up

- Fiber dominates market in Norway
- Germany and Austria: DSL and coax still dominant now and in the next 3-4 years

Prices

- Significantly higher in Norway

Market structure

- Germany and Austria some national and several regional / local infrastructure operators, heterogeneous market structure
- Norway: regional utilities vertically integrated, Open Access under development

Cooperations

- Germany: Open Access is growing in debate and in the market; Telekom so far focusing predominantly on L1 Wholebuy – but this is slowly changing to include also L2
- Norway: slowly breaking up the vertically regional utility structure
- Austria: Open Access in starting phase, A1TA is looking for Wholebuy-Options, favours L1 but does L2 as well

Copper fiber migration

- Germany:
 - BMDS Guideline paper („Eckpunkte“/ „Principles“)
 - BNetzA regulatory concept
 - TKG – only basic provisions, waiting for revised law and DNA
 - Pilot projects Telekom
 - Gigabitforum working group
- Norway:
 - Completed September 2025
- Österreich:
 - Working groups moderated by RTR GmbH

- Telenor didn't buy all of GlobalConnect, just its Norwegian consumer fiber business, now a separate company called Tipo AS. The deal hasn't closed yet (as of Aug 2026); expected this autumn, once competition remedies are fulfilled.
- Telenor is already an SMP (Significant Market Power) operator today, on its own fiber network, that doesn't change because of this deal.
- On its own network, Telenor already has to offer wholesale access (VULA), keep prices fair for competitors (margin-squeeze test), avoid discriminating against wholesale customers, and report service quality.
- GlobalConnect's fiber network doesn't automatically fall under SMP rules just because Telenor now owns it. Instead, Norway's competition authority attached its own conditions to approve the deal.
- Biggest condition: Telenor has to open up the acquired GlobalConnect fiber network to wholesale competitors too, on the same terms as its own network. This happens gradually over 2–3 years, with some cities (Tromsø, Narvik, Bodø, Harstad) required to hit 80% by 2027.
 - this access obligation stays in place even if Nkom later loosens the general SMP rules, so it is actually a stronger, longer-lasting commitment.
- Second condition: in areas where Telenor and GlobalConnect networks overlap, Telenor has to sell off some of the infrastructure and customers to an independent competitor and isn't allowed to buy it back for 5 years.
- Third condition: customers who used to get wholesale access to Telenor's network via GlobalConnect also have to be handed over to a competitor, not absorbed by Telenor.
- There's also a smaller rule for apartment buildings in a few Northern Norwegian towns, guaranteeing competitors access for at least 3 years.
- Overall: the takeaway isn't "GlobalConnect becomes regulated" it's that competition-law conditions force Telenor to open up the acquired network, and these conditions are in some ways even stricter than normal SMP regulation.