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The 2024 Fixed-Line Network Test in the Netherlands

umlaut Part of Accenture

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For the third time, umlaut and connect take a closer look at the performance of the fixed-line networks in the Netherlands. The assessment of umlaut shows two nationwide operators and one regional player achieving outstanding results, one nationwide operator scores very good.

This year, umlaut and connect have again applied umlaut's sophisticated crowdsourcing approach to offer a comprehensive look at the user experience of fixed-line customers in the Netherlands. The results of this analysis highlight that the level of performance achieved by all operators considered has improved compared to our previous test – most obviuosly by this year's nationwide winner.

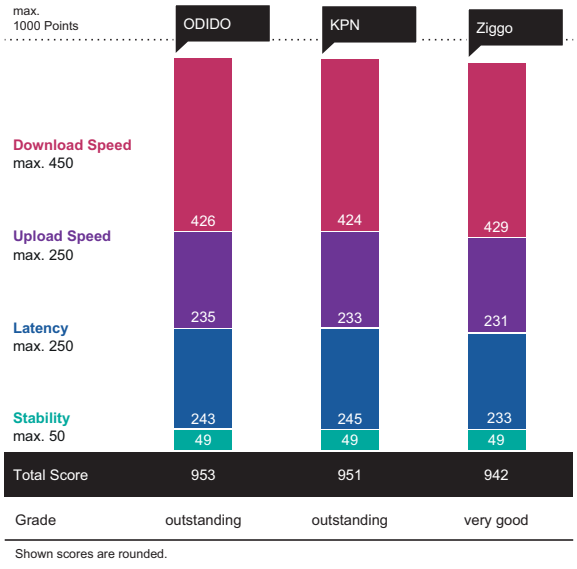
Scope

For its assessment of the Dutch fixed-line operators, umlaut has conducted crowd-sourced analyses based on data gathered between the calendar weeks 33/2023 (mid-August) and 04/2024 (late January). A total of 72,341,451 samples was considered in the nationwide analyses. The detailed methodology of our assessment is described on page 8 of this report.

Crowdsourcing Facts

72.3 million samples

24 weeks (mid-August 2023 to late January 2024)



Shown scores are rounded.

The Dutch Fixed-Line Operators

Ziggo

The Dutch subsidiary of the international Vodafone Group acquired the operator Libertel in 2003, forming Vodafone Netherlands. In 2016, it merged with the cable and fibre operator Ziggo. Today, 50 per cent of the joint company Vodafone-Ziggo is owned by the Vodafone Group and another 50 per cent by Liberty Global.
In its Q3 2023 report, Vodafone-Ziggo specifies 3.6 million fixed (broadband, video and telephony) subscribers.
1.5 million of these households are designated as “converged households“ – i.e. they use both the mobile and the fixed-line network of the operator. Based on these numbers, Vodafone-Ziggo had the biggest fixed-line market share in the Netherlands at the time of writing this report.
Also, according to Vodafone-Ziggo‘s latest publications, the company‘s fixed-line network reaches approx. 7.5 million “homes passed“ – the theoretical number of households to which the operator could provide its fixed-line services.

kpn

The Koninklijke PTT Nederland N.V. emerged from the privatisation of the formerly state-owned PTT in 1998. For 2023, the company reported approx. 3.5 million fixed-line customers.
1.5 million of these are designated as fixed-mobile households. Based on these numbers, KPN is catching up significantly on the fixed-line market share of Ziggo, but currently seems to be still the second largest fixed-line operator in the Netherlands.
In early 2021, KPN and the Dutch pension fund APG announced the start of their joint fibre company “Glaspoort”, which is scheduled to invest more than 1 billion Euros in the construction of approximately one million fibre connections in villages, small residential areas and business parks. According to their latest reports at the time of writing this report, both KPN and Glaspoort cover 4.9 million Dutch households with their common fibre footprint or via third party FTTH access.

Odido

In 2000, Deutsche Telekom bought a minority of the Dutch mobile network operator Ben, which was later extended to a 100 per cent acquisition. In 2003, Ben was renamed T-Mobile Netherlands, with the brand “Ben“ becoming a “no-frills“ offer within its portfolio. In 2007, T-Mobile Netherlands additionally acquired Orange. The acquisition of Thuis in 2016 marked T-Mobile Netherlands‘ entry into the fixed broadband market. In 2018, the company completed its acquisition of the smallest Dutch operator, Tele2, which brought both its own mobile as well as its own fixed-line network to the merger. Telekom holds 75 per cent and Tele2 25 per cent of the infrastructure assets.
The company also announced a strategic partnership with Open Dutch Fiber in 2021. In 2021, T-Mobile Netherlands was acquired by the private equity investors Apax and Warburg Pincus. In consequence, the company was renamed as „Odido“ in fall 2023.
In Q1 2022, the company reported figures for T-Mobile Netherlands for the last time. There, it disclosed a number of around 800,000 fixed-line customers. Although the figures are likely to have somewhat changed since, Odido is quite certainly still the third-largest fixed-line broadband operator in the country.

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Results at a Glance

Odido is the winner of the umlaut connect 2024 Fixed-Line Network Test in the Netherlands, achieving the biggest score improvement and the overall grade “outstanding”. T-Mobile NL‘s successor brand conquers this top position coming from the previous year‘s last place. The smallest fixed-line operator in the Netherlands shows particularly strong Upload Data Rates, but also achieves convincing results in all other assessment categories.

KPN ranks second, just two points behind the overall winner and also with the impressive overall grade “outstanding“. The Netherland‘s second largest fixed-line provider also shows score improvements in comparison to its results from the previous year‘s fixed-line test. KPN is particularly strong in the Latency category, but the operator also shows excellent results in all other assessment categories. In the Reliability evaluation, KPN is ahead together with Ziggo.

Ziggo achieves the overall grade “very good”. In a very competitive environment, the Netherland‘s largest fixed-line operator also manages to improve its score compared to its test results from the previous year. Ziggo scores very strongly in Download Speeds. It also excels in the other categories, but falls a little behind the rest of the field in the Latency assessment. In our Reliability assessment, Ziggo is ahead together with KPN.

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Results

	ODIDO	KPN	Ziggo
Total Score	953	951	942
Grade	outstanding	outstanding	very good

Shown scores are rounded.

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BEST IN TEST

ODIDO
2/2024

FIXED LINE NETWORK TEST IN THE NETHERLANDS
www.connect-testlab.com

"Congratulations to Odido for conquering the ‚Best in Test' accolade among the Netherlands' fixed-line providers in a highly competitive environment. Together with Odido, KPN also achieves an outstanding result – so does Delta in the regional assessment. In addition, Ziggo's result is very good. The high scores for Stability achieved by all candidates show the technologically high level of the Dutch fixed-line networks."

Hakan Ekmen, Global Networks Lead, Comms Industry and CEO umlaut

Photo: S. Borisov, shutterstock

Detailed Results

Active Download Speeds

In the Active Download Speed measurements conducted by umlaut, Ziggo takes the lead with the highest values in the average and P90 values (top 10 percent of the measurements faster than...). In the P10 evaluation, which indicates the threshold surpassed by 90 percent and thus the majority of the samples, KPN comes in first, followed by Odido and then Ziggo, both with only a small gap.

ACTIVE DOWNLOADS

ZIGGO

KPI Values	ODIDO	KPN	Ziggo
Download Speed Active			
Ø Datarate [Mbps]	134.2	110.7	177.9
P10 Datarate [Mbps]	31.5	33.3	30.1
P90 Datarate [Mbps]	319.2	206.8	389.2

Percentages are rounded to one decimal place and points rounded to integer numbers.
For the calculation of points and totals, the accurate, unrounded values were used.

Active Upload Speeds

In the actively performed Upload Speed measurements, Odido takes the lead, showing the highest measurement values in every respect. KPN follows at close distance on second place, and Ziggo, again with a small gap, on third. In the average data rates, as well as in the P90 values, the ranking is quite distinct. In the P10 value (90 percent of the samples better than the determined threshold), Ziggo follows closely behind Odido, with KPN coming in third.

ACTIVE UPLOADS

ODIDO

KPI Values	ODIDO	KPN	Ziggo
Upload Speed Active			
Ø Datarate [Mbps]	101.9	89.2	43.5
P10 Datarate [Mbps]	21.5	19.7	21.2
P90 Datarate [Mbps]	262.6	207.9	73.3

Percentages are rounded to one decimal place and points rounded to integer numbers.
For the calculation of points and totals, the accurate, unrounded values were used.

Passive Download Speeds

As in the passively determined Download Speeds, all three operators rank quite close together. Overall, KPN takes a narrow lead with the highest shares in both investigated KPIs. In the UHD Video class (minimum 20 Mbps) has a narrow lead ahead of Ziggo, with Odido coming in third. In the Highspeed Class (minimum 50 Mbps), KPNs lead over second-placed Odido is a little more distinct, while Ziggo falls a little behind in this KPI.

PASSIVE DOWNLOADS

KPN

KPI Values	ODIDO	KPN	Ziggo
Download Speed Passive			
UHD Video Class [%]	45.9	48.1	47.9
Highspeed Class [%]	11.9	12.4	10.4

Percentages are rounded to one decimal place and points rounded to integer numbers.
For the calculation of points and totals, the accurate, unrounded values were used.

Passive Upload Speeds

In the passively observed Upload Speeds, Ziggo takes the lead with the highest fulfilment rates both in the HD Video Class (at least 5 Mbps) as well as in the UHD Video Class (at least 20 Mbps). KPN und Odido share the second rank in this subcategory. In the HD Video Clas, Odido achieves a slightly higher share than KPN, while in the more demanding UHD Video Class, KPN is ahead of Odido.

PASSIVE UPLOADS

ZIGGO

KPI Values	ODIDO	KPN	Ziggo
Upload Speed Passive			
HD Video Class [%]	39.3	39.2	42.9
UHD Video Class [%]	28.8	29.9	32.3

Percentages are rounded to one decimal place and points rounded to integer numbers.
For the calculation of points and totals, the accurate, unrounded values were used.

Detailed Results

Latency

In the Latency category, KPN gains the highest amount of score points. This is particularly due to its high fulfilment level in the most demanding Ultra Low Latency (ULL) Class with roundtrip times not exceeding 10 ms. In this KPI, Ziggo falls noticeably behind the other two contenders. In the Standard Gaming class (not slower than 50 ms), KPN and Ziggo share the first place. In the Highend Gaming Class (latency below or equal 20 ms), KPN leads, followed by Odido on second and Ziggo on third rank.

LATENCY

KPN

KPI Values	ODIDO	KPN	Ziggo
Latency			
Standard Gaming Class [%]	98.2	98.9	98.9
Highend Gaming Class [%]	88.1	89.2	84.9
ULL Class [%]	53.7	61.5	22.1

Percentages are rounded to one decimal place and points rounded to integer numbers.
For the calculation of points and totals, the accurate, unrounded values were used.

Stability

Although there are slight variances in the percentages of fulfilment, in our scoring, all three nationwide Dutch fixed-line operators are awarded 49 out of 50 points in the Stability category. This high level of Transaction Successes is good news for Dutch fixed-line customers – they can rely on stable, highly available internet connections, regardless of the operator they choose.

STABILITY

ALL OPERATORS

KPI Values	ODIDO	KPN	Ziggo
Stability			
Transaction Success [%]	99.1	99.3	99.2

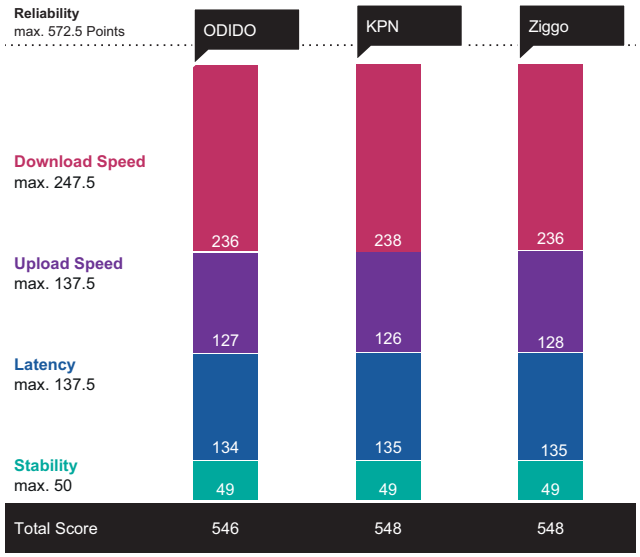
Percentages are rounded to one decimal place and points rounded to integer numbers.
For the calculation of points and totals, the accurate, unrounded values were used.

Reliability

The “Reliability“ section is not based on additional test points, but is rather a different look at the results of the various test categories. The analysis is based on the fact that umlaut distinguishes between “Qualifier KPIs“ (the mandatory) and “Differentiator KPIs“ (“freestyle“) for all KPIs – also see page 8. The Reliability assessment solely concentrates on the “Qualifier KPIs“. As this evaluation only considers a subset of the achievable points, the reachable maximum in this section is only 572.5 points.

Interestingly, in this consideration, KPN and Ziggo score on a par and slightly exceed the result of overall winner Odido at a gap of two score points. KPN achieves a slightly higher score than both of its competitors in the combined assessment of Active and Passive Download Speeds. Ziggo is ahead in the achieved score for Active and Passive Upload Speeds – at a gap of one point over Odido and of two points over KPN. In the Latency assessment, KPN and Ziggo score on a par, one point ahead of Odido. All three operators achieve the same result in terms of Stability.

Although the gaps are minor, they can be interpreted to the effect that KPN and Ziggo are slightly ahead when it comes to fulfilling basic connectivity needs, while Odido secures its overall win by supplying a little bit more in the performance-oriented part of our scoring.



Shown Reliability scores are rounded.

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Regional Provider: Delta

In addition to the nationwide assessment, we also present a category of regionally operating fixed-line network providers. We differentiate these classes of candidates for various reasons: Firstly, customers should be aware that the offerings of regional providers are available only in certain parts of the country. And secondly, it would be unfair to directly compare fixed-line operators that only serve a limited selection of very lucrative regions or provinces with others, that actually offer their services nationwide.

Cable and fibre operator Delta only candidate in regional category in the Netherlands

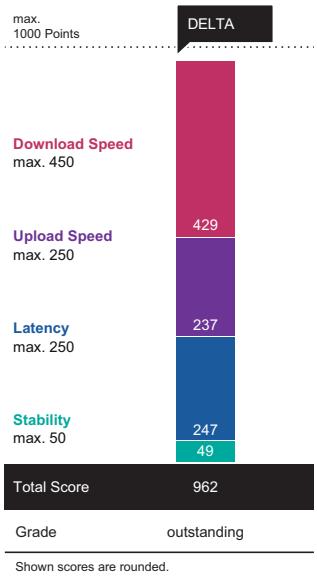
Currently, the operator Delta is the only regional fixed-line provider in the Netherlands which, based on statistical relevance, we can consider in our fixed-line network test. Delta, who has acquired its former competitors Caiway and ZeelandNet, offers a TV cable network as well as fibre connections to approxiately 1.6 million households in various parts of the country. Delta has announced its ambition to achieve 2 million "homes passed" by 2025. In addition, the operator offers 5G services.

umlaut's analyses show a high presence of Delta lines in the provinces of Friesland, Gelderland, Noord-Brabant, Noord-Holland, Overijssel, Utrecht, Zeeland and Zuid-Holland. In the other Dutch provinces the observed numbers are considerably lower.

Delta particularly strong in Upload and Latency categories

That said, where Delta is actually present, this operator shows very convincing results in all of our test categories.

In the Download Speed category, it scores on a par with nationwide cable and fibre operator Ziggo. In the Upload and Latency categories, Delta scores ahead of even its strongest nationwide competitors – which indicates a high share of fibre lines in our sample collection. In terms of Stability, Delta achieves the same high score as Odido, KPN and Ziggo.

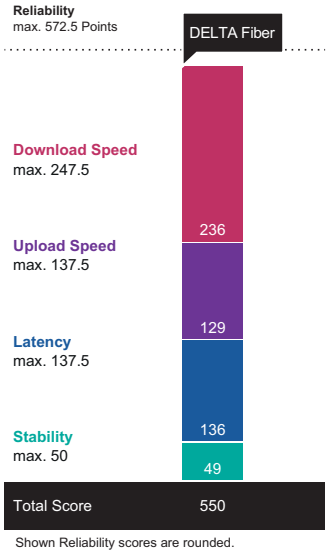


Shown scores are rounded.

KPI Values	DELTA
Download Speed Active	
Ø Datarate [Mbps]	152.3
P10 Datarate [Mbps]	30.8
P90 Datarate [Mbps]	336.0
Download Speed Passive	
UHD Video Class [%]	49.5
Highspeed Class [%]	12.5
Upload Speed Active	
Ø Datarate [Mbps]	102.4
P10 Datarate [Mbps]	20.5
P90 Datarate [Mbps]	219.0
Upload Speed Passive	
HD Video Class [%]	48.3
UHD Video Class [%]	39.5
Latency	
Standard Gaming Class [%]	99.1
Highend Gaming Class [%]	93.0
ULL Class [%]	68.6
Stability	
Transaction Success [%]	99.1

Reliability

The very high level of performance which Delta shows in the overall regional results is also confirmed by the Reliability assessment which focuses on those KPIs that represent basic communication needs (the "Qualifier KPIs"). Taking into account the restrictions already mentioned above, Delta's network shows similar tendencies as in the overall assessment: In particular, the operator slightly outperfoms its nationwide competitors in the reliability of Upload Performance and Latencies. In terms of Download Speeds, Delta's Reliability results show the same level of performance as Odido and Ziggo in the nationwide scoring (but fall two points short of KPN's result). In terms of Stability, Delta achieves the same, very good score as its nationwide competitors. Still, all these score differences are comparably small.



Shown Reliability scores are rounded.

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Methodology

The umlaut connect Fixed-Line Network Test is based on a sophisticated crowdsourcing approach. The analysis considers data gathered over a period of 24 weeks and represents the real-life user experience of fixed-line customers.

The network tests conducted by umlaut and connect are widely accepted as the de-facto industry standard and for being highly objective. With a further refinement of the crowdsourcing methodology already known from umlaut's accredited mobile network tests, it became also possible to analyse relevant performance KPIs of fixed-line services.

Comprehensive crowdsourcing

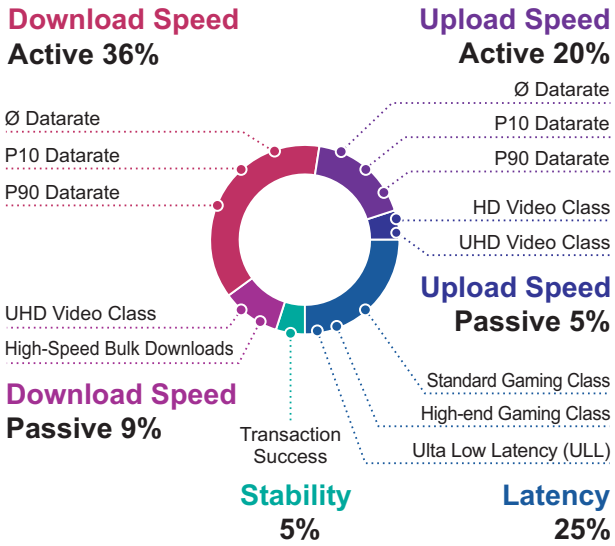
The results of this test are based on a comprehensive analysis of crowd-sourced data which is performed by umlaut, based in Aachen, Germany. For the data collection, umlaut has integrated a background diagnosis process into thousands of popular Android apps. If one of these applications is installed on the end-user's smartphone or tablet and the user authorizes the background analysis, data collection takes place in the background during use of the respective devices. Samples are generated in specific intervals (from one second up to 15 minutes) and sent daily to umlaut's cloud servers, where the data is further processed. By filtering the network access technology to those samples collected via Wi-Fi (as opposed to mobile network connections) and identifying the network operator, the collected samples can be limited to fixed-line connections. A complex set of rules and extensive checks ensure the validity of the evaluations. For example, conspicuously slow connections are filtered out – the threshold value is derived from the average performance of all lines observed in a country. By using heuristic methods, this also filters out samples which were collected via FWA (fixed-wireless access) as best as possible.
The analysis of Wi-Fi samples takes into account the fact that most Internet connections today are used this way. Since the Wi-Fi speeds achievable with current smartphones and tablets are usually significantly higher than the observed data rates, the influence of the Wi-Fi link speed on the measurement results is negligible.

Passive Data Rates

The passive gathering of the data rates observed for downloads and uploads takes place in the background while the user's employ everyday applications on their devices such as web browsing, streaming or gaming. In order to classify the observed speeds, umlaut has defined application-related speed classes: "HD Video" requires 5 Mbps, "UHD Video" requires 20 Mbps and "Highspeed Bulk Downloads" require 50 Mbps.
For the typically lower rates of data uploads, only the speed classes "HD Video" (min. 5 Mbps) and "UHD Video" (min. 20 Mbps) are considered. The observed passive download speeds make up 9% of the total result, the upload speeds contribute 5% to the total result.

Active Data Rates

In addition to the passive observations of the data rates requested by apps, active measurements of the upload and download data rates also take place typically eight times a month. They determine the amount of data that could be transferred in 3.5 seconds and derive the data rate from this. Our scoring considers the average data rate, the P10 value (90% of the values are above the specified threshold, a good approximation of the typical minimum speed) and the P90 value (10% of the values are above this threshold, a look at the peak values) for the determined measurements. The determined active download speeds account for 36% of the overall result, and the active upload tests contribute 20% to it.



Latency

Latency measurements are taken every 15 minutes – for this purpose, "pings" are performed directly after the connection tests. The first "hop", which is affected by WiFi, is corrected. umlaut also assigns the results of the latency determinations to an application-related class: Roundtrip times of less than 50 ms qualify a sample for standard gaming and less than 20 ms for high-end gaming. If the latency is shorter than 10 ms, the sample is counted as Ultra Low Latency (ULL), which is sufficient for near-real-time applications. Our tables show the percentage of connections that reached the required thresholds in the mentioned classes or performed better. The latency score accounts for 25% of the total result.

Stability

Based on the determined data rates and additional browsing and connection tests, umlaut also examines when a broadband connection is available at all. The averaged and weighted results define the percentage of the Internet transaction success rate and account for 5% of the total score.

Reliability

umlaut divides all measured values into basic requirements ("Qualifier KPIs") and values related to peak performance ("Differentiator KPIs"). The presentation of reliability takes only the "Qualifier KPIs" into account and thus allows a statement on how well a provider's network meets the purely basic requirements.