

# Beyond compliance: How Reporting Standards Drive Sustainable Innovation



Christina Rieke  
Sustainability Manager  
**Odido**



Patty van Broekhoven  
Sustainability Manager  
**Netceed**



Jeroen Kanselaar  
Manager ESG  
**Eurofiber**



Olivier van Duuren  
Sustainability Officer  
**Genexis**

**ANGA.COM**  
WHERE BROADBAND MEETS CONTENT

In cooperation with:



**connect**



# 90 members from the broadband value chain

- Telecoms and broadband network owners (mobile, fiber, cable, DSL, fixed wireless)
- Telecoms contractors
- Vendors
- ISPs and TV providers







# NLconnect PCRs

- Dutch trade organization NLconnect has published Product Category Rules (PCRs), for active and passive fiber products
- The PCRs were developed in cooperation with several members of NLconnect, along with EPDs for several products



# Product Category Rules (PCR) approved!!

**BREAKING  
NEWS**

**Product  
Category  
Rules  
(PCR)**

Tells you  
how to  
prepare a

**Life Cycle  
Assessment  
(LCA)**

Which gets  
summarized  
in an

**Environmental  
Product  
Declaration  
(EPD)**

- Determines the the product category
- Determines the specification of the production and use phase
- Lays out which impacts the manufacturer must share

- Typically prepared by an independent LCA consultant
- Shows how the product is made and of which materials
- Explains each environmental impact and how it was measured

- Attempts to show LCA results in a shorter form
- verified by an independent expert
- Does not compare products, but can make comparison easier



United Nations  
Global Compact



SCIENCE  
BASED  
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Network Supporter of:



World Business  
Council  
for Sustainable  
Development



GREENHOUSE  
GAS PROTOCOL



ecovadis



Certified



Corporation



Dow Jones  
Sustainability Indexes

Global  
Goals &  
Principles

Reporting  
Frameworks

Sustainability  
reporting  
landscape

ESG ratings

Regulation





# Odido – Angacom 2025

Christina Rieke - June 2025

# Odido at a **glance**: Telecom operator in the Netherlands

Mobile Base FY24

**~7.3 million**

Largest in B2C postpaid

Access to the largest  
FTTH Footprint

**7.5 MM homes passed**

Total revenue FY24

**~ €2.3 billion**

Employees FY24

**~1,800 FTEs**

**118** stores in NL

Our **three brands** – for everyone.



Premium | 5G | Convergence

**Ben**<sup>®</sup>

Straightforward | Cost-conscious

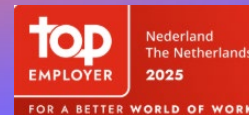
**simpel**

SIM-only | Cost-conscious | Online-only

ESG



United Nations  
Global Compact



**SER**

Diversiteit in Bedrijf



**JAC**  
COOPERATION  
BEYOND COMPETITION

The best of

**Mobile, Fiber  
and TV,**  
accessible to everyone.



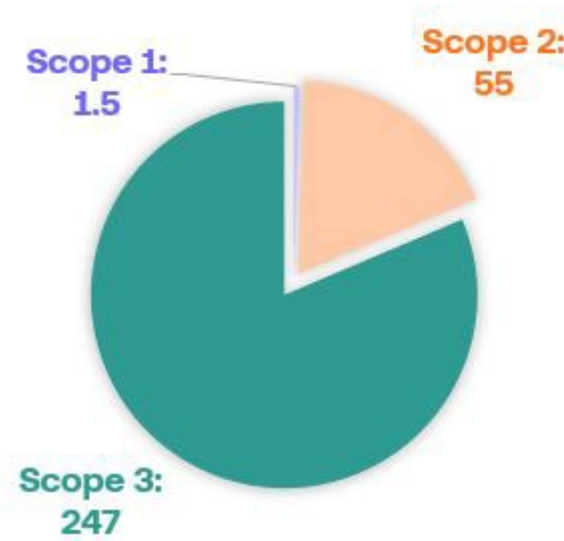


# Our Sustainability ambitions – CO2 Emissions

## Net Zero targets

- Net Zero Scope 1 & 2 CO2 emissions in 2028
- Net Zero Scope 3 CO2 emissions in 2040
- SBTi approved

## CO2 Emissions\*



\*2024 in kilo tons CO2e

## Scope 3 categories

#	Category	% of total
1	Electricity use of CPE's	36%
2	Production of smartphones	15%
3	Production of network equipment	10%
4	Production of CPE's	7%
5	Network installation & maintenance	5%
6	Roaming and interconnect	4%
7	Logistics	3%
8	Electricity use of smartphones	3%
9	Employee commuting & business travel	0.4 %
10	Various purchased goods and services	16%



# What do we need from suppliers?

Options how to calculate product-related CO2 emissions

*Calculation methodology*

spend-based

supplier-specific

product-specific

*CO2 Reduction potential (OEM/operator)*

no impact

indirect impact

direct impact

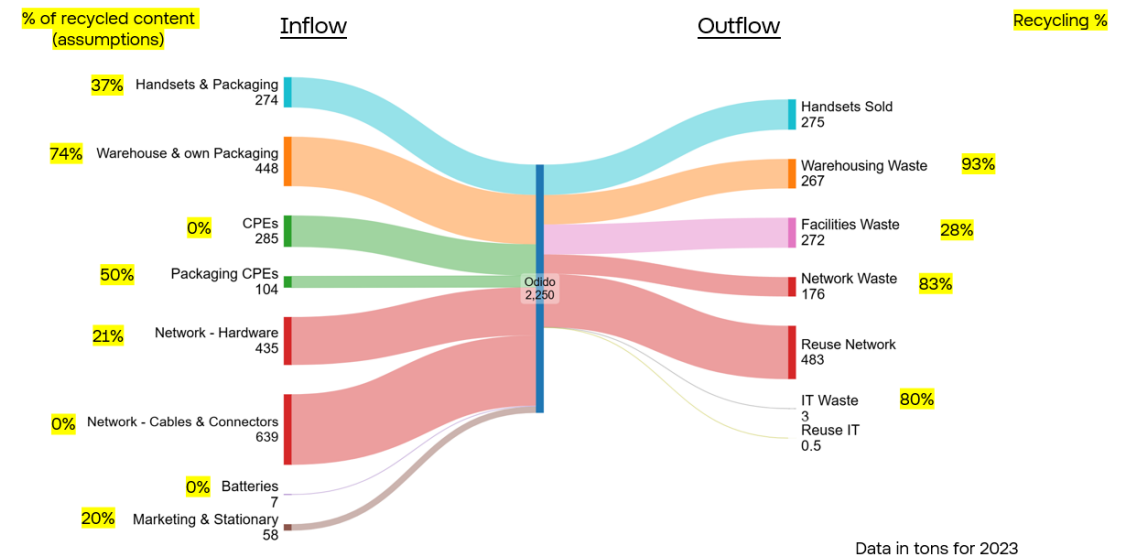
presentations Netceed and Genexis

# Our Sustainability ambitions – Circularity

## Circularity targets

- Increase circular in- and outflow (targets under development)
- Improve data quality

## Material in- and outflow



what do we need from suppliers? → presentations Netceed and Genexis

# Enhance your impact through Industry Collaborations

NLconnect (trade body for broadband in NL)

- Started with **PCRs** (Product Category Rules) to develop LCAs and PCFs
- Established permanent **sustainability working group** in 2024

Joint Alliance for CSR (JAC) (international telco operators)

- **Joint audits** and **programmes** focussing on improving CSR/ESG performance at suppliers
- **Carbon Reduction Programme** focussing on the joint supply chain
- **Circularity working group** focussing on supplier engagement and marketplace

GSMA (global trade body for mobile ecosystem)

- Surveys, business cases, roundtables, marketplace, joint targets etc
- **Carbon calculator** to quantify savings of circularity
- Working on a **Scope 3 data platform**





# Thank you

13 June 2025

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# Sustainability Supplier Engagement Program

Shaping the future of communication  
networks across the globe

# Who we are and what we do

We are **Netceed**, your premier partner and One-Stop Shop for all active and passive materials, technical expertise, and logistics solutions.



## Distribution and Logistics



## Professional Services



## Consultancy Services



## Network Architecture and Design



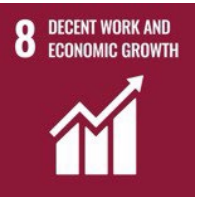
# Working with our suppliers is key to achieve our sustainability roadmap

## Climate action



Measure and continue reducing our impact on climate change

## Our people



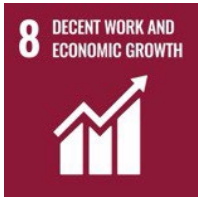
Be the employer of choice through an ambitious talent management approach

## Sustainable offer



Increase our sustainable product and services offer by working with our suppliers and innovating

## Business ethics



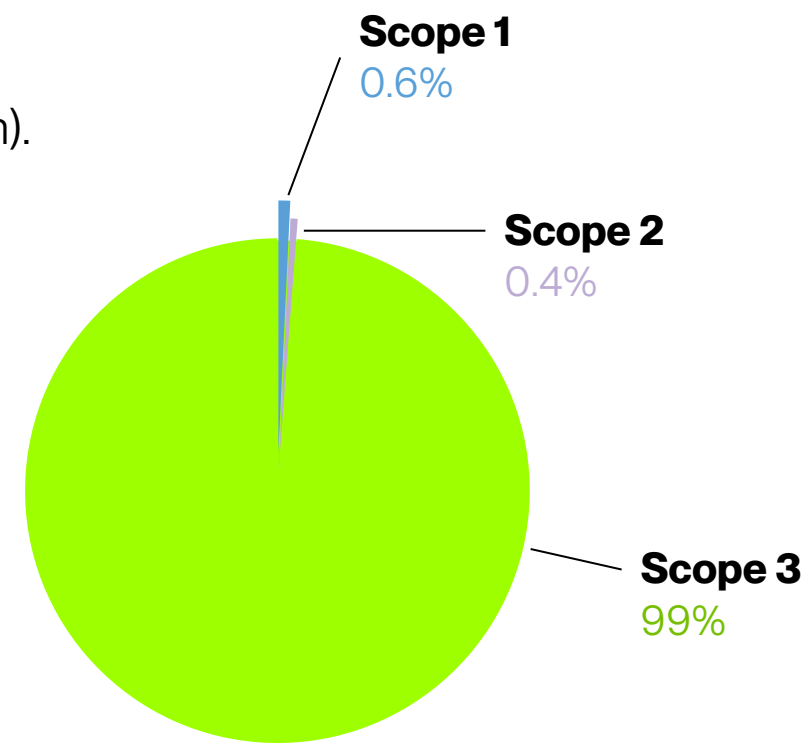
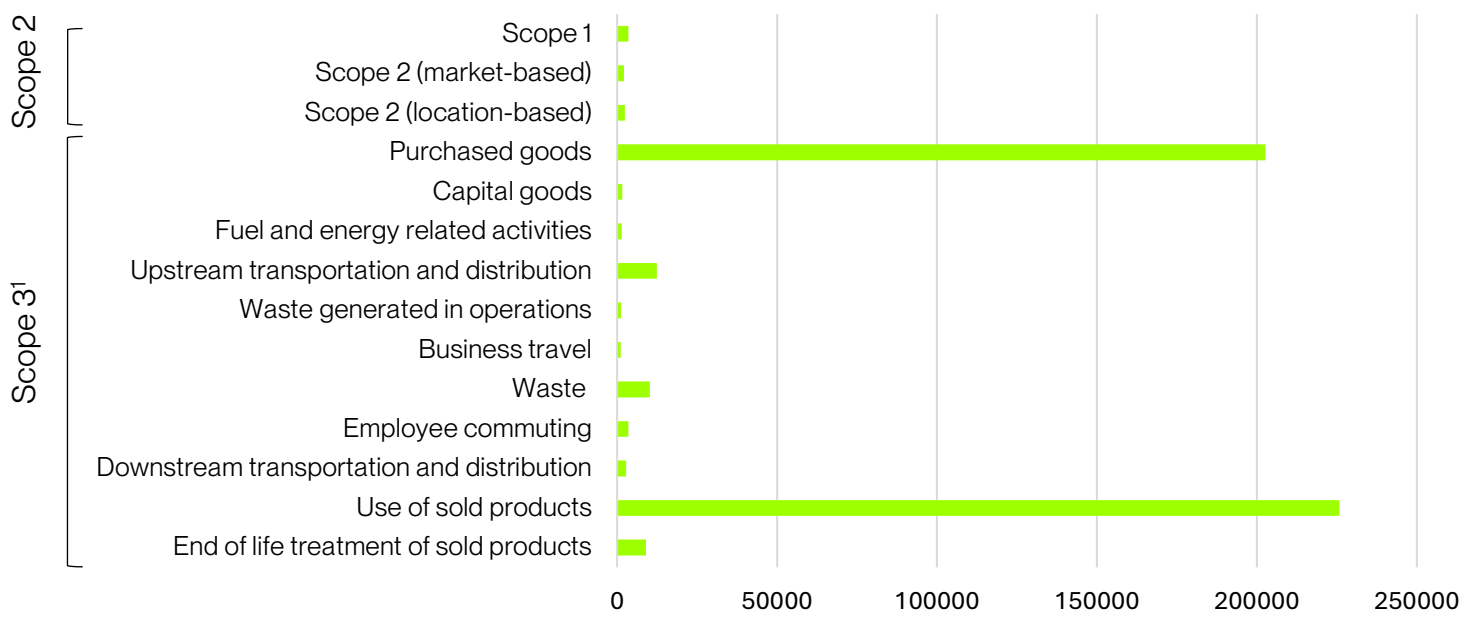
Reinforce our corporate ethics culture

Contributing directly to 4 of the 17 United Nations Sustainable Development Goals



# Our Greenhouse Gas Emissions

- Total emissions was **467,733 t CO<sub>2</sub>e**.
- **91%** related to the production (cradle-to-gate) and the use phase of the products sold to the customers (i.e., when active products are in operation).
- **1%** related to our buildings.



<sup>1</sup> Other emissions from scope 3 categories are equal to 0.  
<sup>2</sup> Scope 1 & 2: 95% of emissions must be covered by targets;  
Scope 3: 67% of emissions must be covered by targets.

# Conclusion

Our targets have been developed in line with science, to remain in the 1.5 degrees pathway from the 2015 Paris Agreement.

We committed to the SBTi, and we aim for the below near-term targets to be approved in 2025:

**63%**

reduction in absolute scope 1 and 2 greenhouse gas emissions by 2035 (baseline 2022).

**67%**

reduction per unit value added scope 3 use of sold products category greenhouse gas emissions by 2035 (baseline 2022).

**67%**

of our suppliers by spend covering purchased goods and services to have science-based targets by 2030.

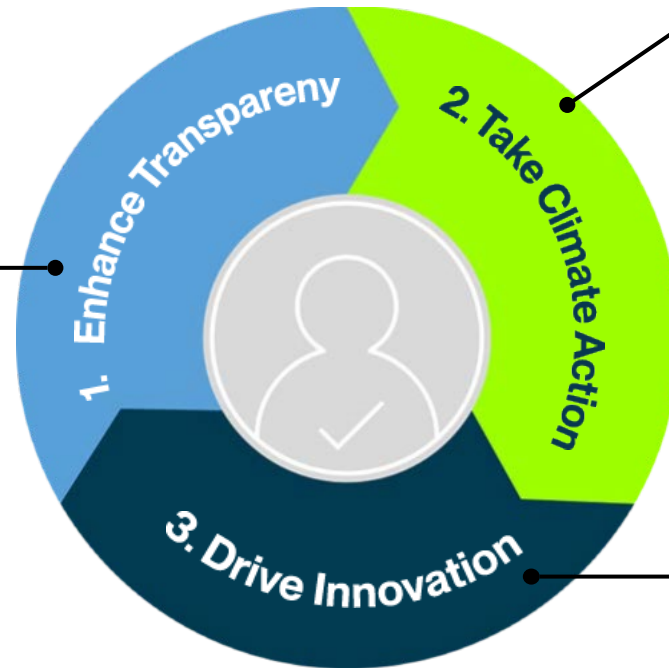


# Our supply chain sustainability ambitions



## Enhance Transparency

We'll work together to better understand and measure the environmental and social impacts of our supply chain



## Take Climate Action

We'll partner to identify emission reduction and energy efficiency opportunities



## Drive Innovation

We'll collaborate to create sustainable solutions

# Partnering for sustainable impact

We engage **40 key suppliers**, representing **70% of Netceed's annual spend**, to drive progress across:

## **Due Diligence**

Ensuring our Supplier Code of Conduct is respected

## **Climate Action**

Setting GHG emission reduction targets

## **Eco-Design**

Scaling material passports and sustainable design rules

Through **webinars and 1-on-1 discussions**, we collaborate year-round on a shared sustainability roadmap.

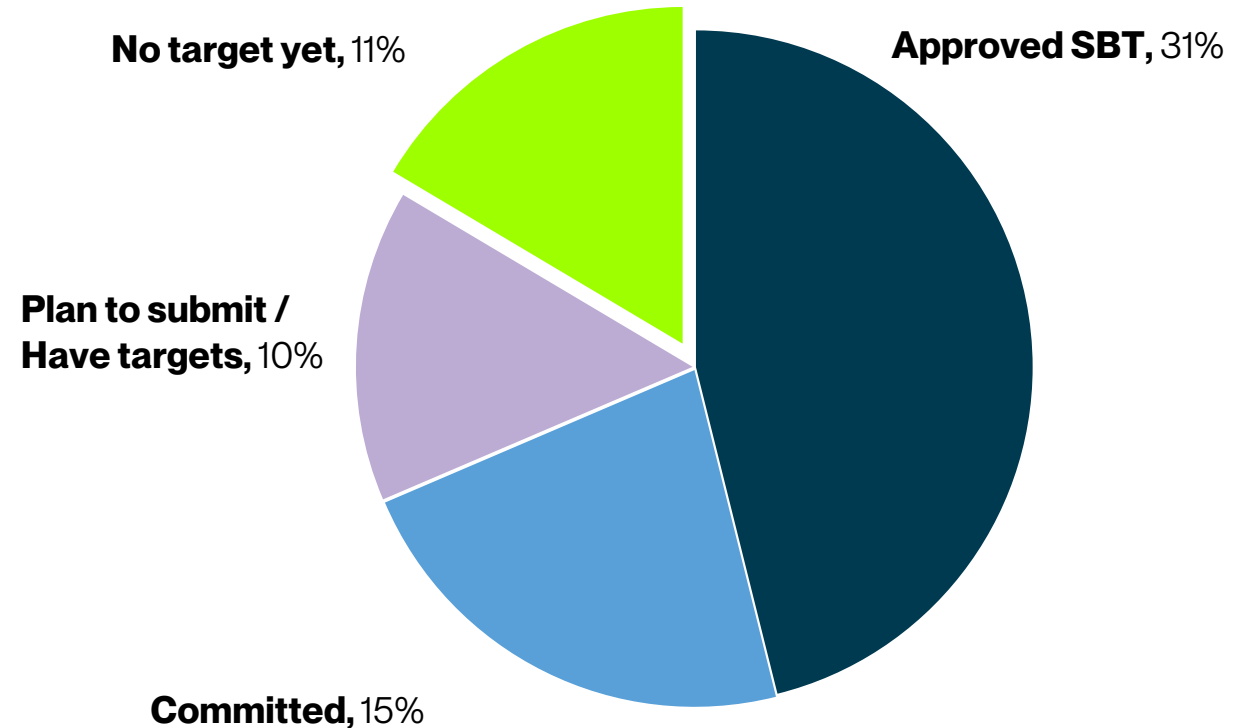
Netceed Sustainability Supplier Engagement Program is a true **cross functional effort** led by Procurement and Sustainability teams.



## Setting science-based targets

- Our target: **67% of our supplier by spend covering purchased goods and services will set science-based targets by 2030.**
- Engaging our supplier is critical for driving down our indirect greenhouse gas emissions. Through this commitment, we help drive commitment and reduction in our value chain and in our industry.

## Overview top suppliers\* engagement with the SBTi



Status: June 2025

\*representing 67% of our 2024 total spend

# Partnering with operator

Microfocus

## Regular Duct 7 x 14 x 10

Material	Unit	Measured Qty.	Weight (g)	Recycled (%)	Recyclable (%)	Circularity (%)
PE	M	750	439,653.00	0%	100%	50%

Microfocus

## Eco Duct 7 x 14 x 10

Material	Unit	Measured Qty.	Weight (g)	Recycled (%)	Recyclable (%)	Circularity (%)
PE	M	750	439,653.00	100%	100%	100%

### Summary

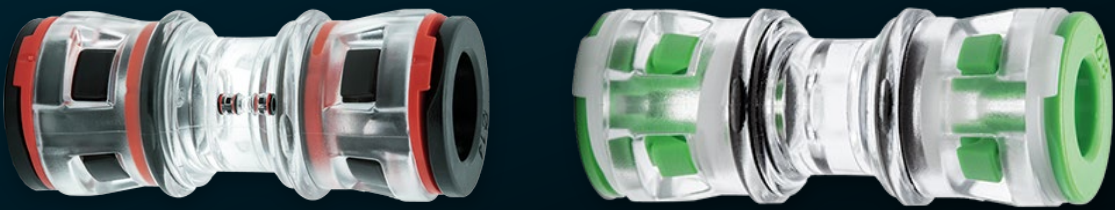
Total weight (g)	439,653.00
Circularity in	-
<b>Circularity total</b>	<b>50.00 %</b>

### Summary

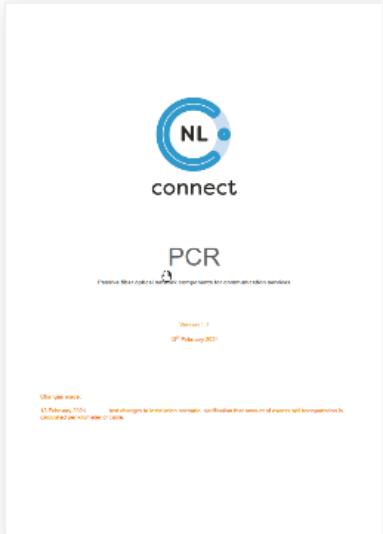
Total weight (g)	439,653.00
Circularity in	99.90 %
<b>Circularity total</b>	<b>99.95 %</b>

# Partnering with supplier

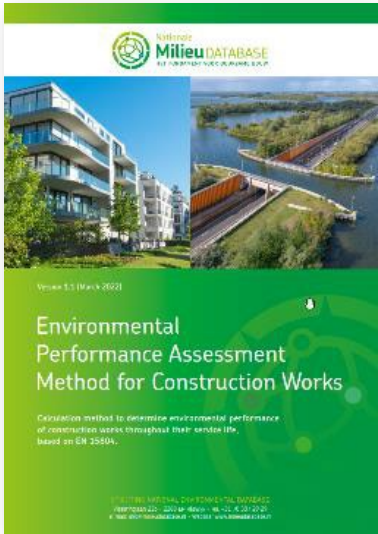
Standard Material (1 kg)	5.8 kg CO <sub>2</sub>	100 %
Eco Material (1 kg) (Recycled and Bio plastics)	1.1 kg CO <sub>2</sub>	19 %
Reduction	4.7 kg CO <sub>2</sub>	81 %



## The Product Carbon Footprint has been determined in accordance with:



**PCR** NL Connect  
(specific for passive fiber  
optic network components)



**Environmental Performance  
Assessment Method** for  
Construction Works



# Thank you

For more information, please visit our Booth A50 (Hall 8).



Shaping the future of communication networks across the globe

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# Genexis - ANGACOM 2025

An introduction to three  
examples at Genexis



# Genexis - innovative broadband solutions



- 20+ years of experience in FTTH & broadband industry
- Headquarters in Eindhoven & Stockholm
- ±175 employees
- 8 offices worldwide
- Global network of partners & distributors
- Leading European CPE vendor
- Noted sustainability bond on Nasdaq Stockholm





# Everything for connecting the home to the internet



## Fiber to the Home



### Patented fiber termination

GPON, XGSPON, PtP  
1 – 10 Gb/s, CATV, Voice

TrueTalk  
PON AUTOSENSING



## Connected Home



Fiber-speed, fully managed  
Wi-Fi Ethernet & Fiber gateways,  
EasyMesh router-extenders

Powered by  
IOWRT

## Connectivity Management

CloudSight

### Management made Easy

From basic provisioning to  
prevention of helpdesk calls



# Three Genexis examples

1. Product carbon footprint

2. Power consumption

3. Product circularity





**Production**

**Raw Materials (per calculation unit)**

No.	Material type (1)	Description (2)	Weight (kg) (3)	Percentage (4)	Supplier (5)	Comments (6)
1	PCBA	PCBA	79	0%	84%	
2	ABS plastic	ABS plastic	75	91%	100%	
3	Heat sink (AQ)	Heat sink (AQ)	3	0%	100%	
4	Packaging	Packaging	101	100%	100%	
5	Power supply	Power supply	80	0%	84%	
6	Manual	Manual	12	100%	100%	
7	PCBA	PCBA	79	0%	84%	
8	ABS plastic	ABS plastic	75	91%	100%	
9	Heat sink (AQ)	Heat sink (AQ)	3	0%	100%	
10	Packaging	Packaging	101	100%	100%	
11	Power supply	Power supply	80	0%	84%	
12	Manual	Manual	12	100%	100%	

**Explanation A1 Raw materials**

1. Choose the material type which is used to calculate the carbon footprint of the product. 2. Choose the material type (e.g., PCBA, ABS plastic, etc.). 3. Choose the material weight (e.g., 79 kg). 4. Choose the primary material of the material type. 5. Choose the percentage of material in the product. 6. Choose the supplier of the material. 7. Choose the material type (e.g., PCBA, ABS plastic, etc.). 8. Choose the material weight (e.g., 75 kg). 9. Choose the primary material of the material type. 10. Choose the percentage of material in the product. 11. Choose the supplier of the material. 12. Choose the material type (e.g., PCBA, ABS plastic, etc.). 13. Choose the material weight (e.g., 3 kg). 14. Choose the primary material of the material type. 15. Choose the percentage of material in the product. 16. Choose the supplier of the material. 17. Choose the material type (e.g., PCBA, ABS plastic, etc.). 18. Choose the material weight (e.g., 101 kg). 19. Choose the primary material of the material type. 20. Choose the percentage of material in the product. 21. Choose the supplier of the material. 22. Choose the material type (e.g., PCBA, ABS plastic, etc.). 23. Choose the material weight (e.g., 80 kg). 24. Choose the primary material of the material type. 25. Choose the percentage of material in the product. 26. Choose the supplier of the material. 27. Choose the material type (e.g., PCBA, ABS plastic, etc.). 28. Choose the material weight (e.g., 12 kg). 29. Choose the primary material of the material type. 30. Choose the percentage of material in the product. 31. Choose the supplier of the material.

**Production process (per calculation unit)**

No.	Material type (1)	Description (2)	Weight (kg) (3)	Percentage (4)	Supplier (5)	Comments (6)
1	PCBA	PCBA	79	0%	84%	
2	ABS plastic	ABS plastic	75	91%	100%	
3	Heat sink (AQ)	Heat sink (AQ)	3	0%	100%	
4	Packaging	Packaging	101	100%	100%	
5	Power supply	Power supply	80	0%	84%	
6	Manual	Manual	12	100%	100%	
7	PCBA	PCBA	79	0%	84%	
8	ABS plastic	ABS plastic	75	91%	100%	
9	Heat sink (AQ)	Heat sink (AQ)	3	0%	100%	
10	Packaging	Packaging	101	100%	100%	
11	Power supply	Power supply	80	0%	84%	
12	Manual	Manual	12	100%	100%	

**Explanation A3 Production process**

1. Choose the material type which is used to calculate the carbon footprint of the product. 2. Choose the material type (e.g., PCBA, ABS plastic, etc.). 3. Choose the material weight (e.g., 79 kg). 4. Choose the primary material of the material type. 5. Choose the percentage of material in the product. 6. Choose the supplier of the material. 7. Choose the material type (e.g., PCBA, ABS plastic, etc.). 8. Choose the material weight (e.g., 75 kg). 9. Choose the primary material of the material type. 10. Choose the percentage of material in the product. 11. Choose the supplier of the material. 12. Choose the material type (e.g., PCBA, ABS plastic, etc.). 13. Choose the material weight (e.g., 3 kg). 14. Choose the primary material of the material type. 15. Choose the percentage of material in the product. 16. Choose the supplier of the material. 17. Choose the material type (e.g., PCBA, ABS plastic, etc.). 18. Choose the material weight (e.g., 101 kg). 19. Choose the primary material of the material type. 20. Choose the percentage of material in the product. 21. Choose the supplier of the material. 22. Choose the material type (e.g., PCBA, ABS plastic, etc.). 23. Choose the material weight (e.g., 80 kg). 24. Choose the primary material of the material type. 25. Choose the percentage of material in the product. 26. Choose the supplier of the material. 27. Choose the material type (e.g., PCBA, ABS plastic, etc.). 28. Choose the material weight (e.g., 12 kg). 29. Choose the primary material of the material type. 30. Choose the percentage of material in the product. 31. Choose the supplier of the material.

**Report overview**

The FiberTwist-G2410 is produced in China, and by default will be transported by container ship to the Netherlands. Afterwards, it will be deployed and used for an estimated 8 years until its end-of-life.

**Total life cycle emissions**

Phase	Emissions (kgCO <sub>2</sub> e)
Production	2.01 kgCO <sub>2</sub> e
Transport	0.11 kgCO <sub>2</sub> e
Use	54 kgCO <sub>2</sub> e
End-of-life	0.01 kgCO <sub>2</sub> e
<b>Total</b>	<b>56.1 kgCO<sub>2</sub>e</b>

**Product circularity**

Material	Weight (g)	Inflow (%)	Outflow (%)
PCBA	79	0%	84%
ABS plastic	75	91%	100%
Heat sink (AQ)	3	0%	100%
Packaging	101	100%	100%
Power supply	80	0%	84%
Manual	12	100%	100%
<b>Total</b>	<b>350</b>	<b>52%</b>	<b>93%</b>

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**Product circularity**

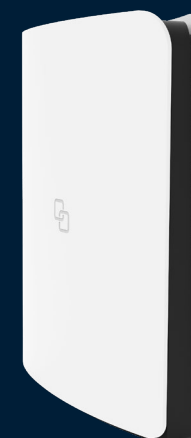
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## FiberTwist Series 2.5G PtP ONT

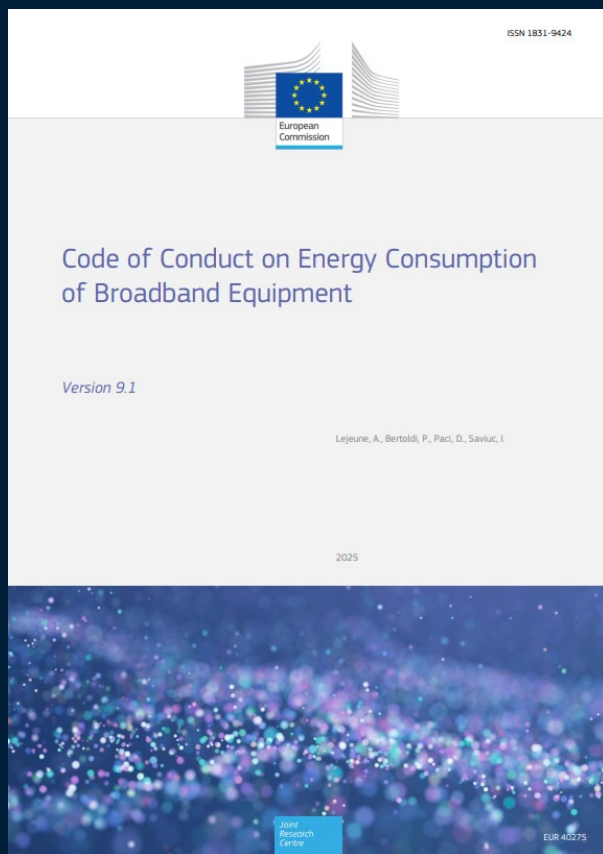


Available  
upon  
request

## Aura Series Wi-Fi 7 Router



Available  
upon  
request



## FiberTwist Series 2.5G PtP ONT

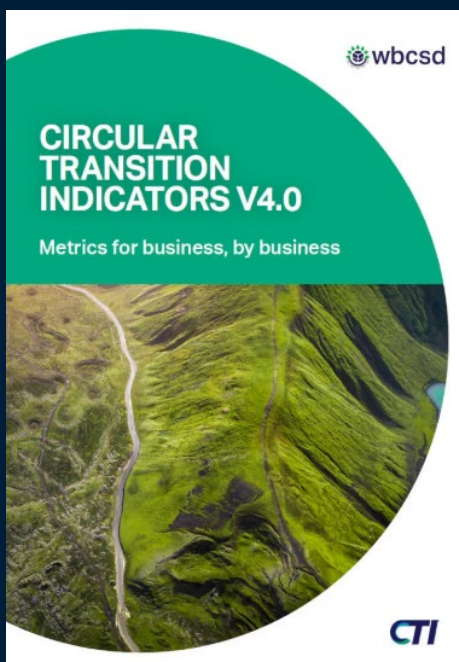


## Aura Series Wi-Fi 7 Router



## 3

## Product circularity



wbcSD

CIRCULAR  
TRANSITION  
INDICATORS V4.0

Metrics for business, by business

CTI

## Material circularity calculation sheet

Based on CTI framework v4.0 definitions and formulas.

Material	Mass (g)	Non-virgin – renewable (circular) %	Non-virgin – non-renewable (circular) %	Virgin – renewable (circular) %	Virgin – non-renewable (linear) %	Weight of non-virgin materials (g)	Actual recovery %	(Default) Recovery potential %	Weight of waste generated (g)	Weight of recovered waste (g)	Circular score
Plastic	75	0%	91%	0%	9%	68,25	12%	100%	66	9	52%
PCB	50	0%	0%	0%	100%	0	12%	84%	44	6	5%
Packaging	83,5	100%	0%	0%	0%	83,5	12%	100%	73,48	10,02	56%
PSU adapter	79	0%	0%	0%	100%	0	12%	84%	69,52	9,48	5%
Total	287,5	29%	24%	0%	47%	151,75	12%	93%	253	34,5	32%

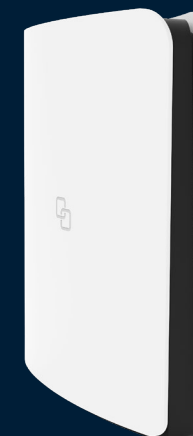
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Material	Mass (g)	Non-virgin – renewable (circular) %	Non-virgin – non-renewable (circular) %	Virgin – renewable (circular) %	Virgin – non-renewable (linear) %	Weight of non-virgin materials (g)	Actual recovery %	(Default) Recovery potential %	Weight of waste generated (g)	Weight of recovered waste (g)	Circular score
Plastic	283	0%	90%	0%	9%	254,7	12%	100%	249,04	33,96	51%
PCB	200	0%	0%	0%	100%	0	12%	84%	176	24	5%
Packaging	287	100%	0%	0%	0%	287	12%	100%	252,56	34,44	56%
PSU adapter	159	0%	0%	0%	100%	0	12%	84%	139,92	19,08	5%
Aluminum	134	0%	0%	0%	100%	0	12%	100%	117,92	16,08	6%
Ethernet cable	40	0%	0%	0%	100%	0	12%	84%	35,2	4,8	5%
Total	1103	26%	23%	0%	51%	541,7	12%	94%	970,64	132,36	30%

FiberTwist Series  
2.5G PtP ONTCircularity  
score

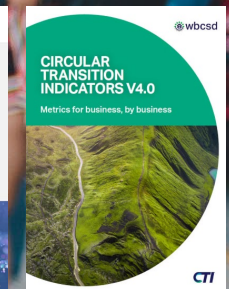
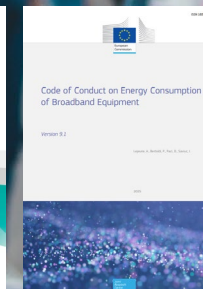
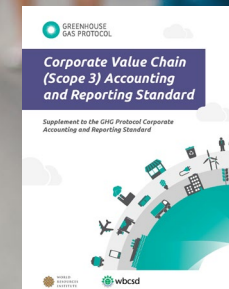
32%

Aura Series  
Wi-Fi 7 RouterCircularity  
score

30%



# Adopt the Standards. Accelerate the Change.







# Bringing the World to Everyone's Home

[www.genexis.eu](http://www.genexis.eu)





[pollev.com/nlconnect318](https://pollev.com/nlconnect318)

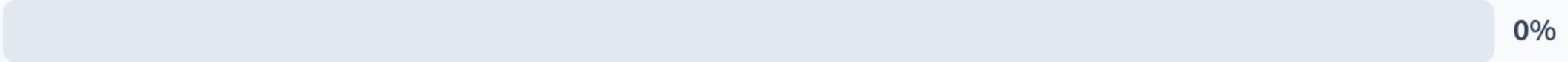
## Governments should impose stricter regulations to enforce corporate sustainability

(A) Yes, I agree



100%

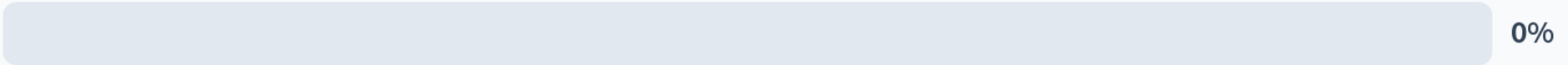
(B) No, I disagree



0%

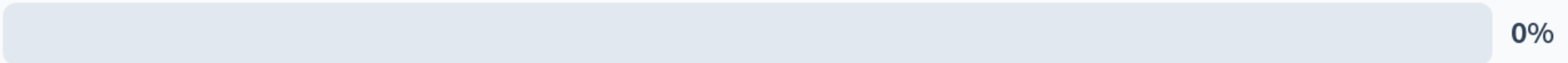
## The CO<sub>2</sub> reduction targets set by companies for scope 3 are unrealistic, because they are too dependent on their suppliers

Yes, I agree



0%

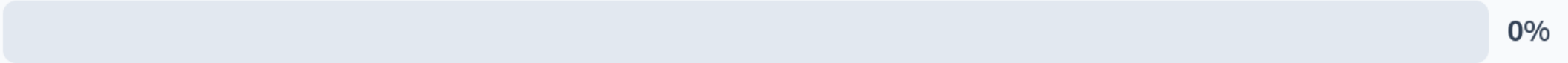
No, I disagree



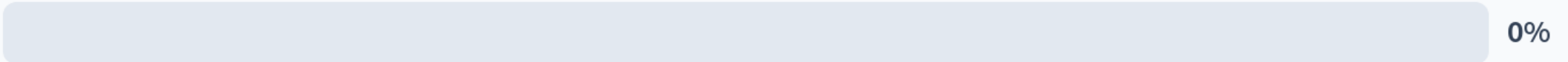
0%

## The fiber industry should focus on network rollout and not (yet) concern itself with sustainability

Yes, I agree

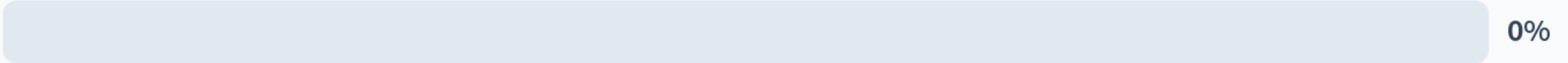


No, I disagree

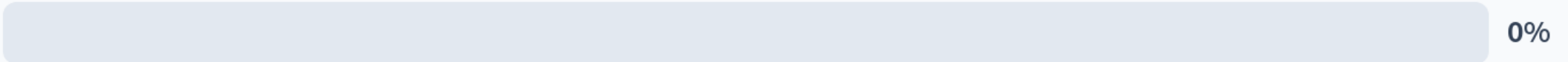


## Reporting obligations place an unreasonable burden on businesses and distracts from real climate action

Yes, I agree



No, I disagree





## Without reporting obligations like the CSRD, the telecom and fiber industry would never have taken real steps towards decarbonization

Yes, I agree

0%

No, I disagree

0%

Although parts of the CSRD have been postponed through the Omnibus Directive, there are still strong business drivers to improve and measure sustainability in our industry's value chain

Yes, I agree

0%

No, I disagree

0%

## If ESG is not part of your company DNA, you will struggle to attract young talent

Yes, I agree

0%

No, I disagree

0%

Thanks to standards like SBTi and CTI, the sector is able to set realistic sustainability targets and track progress in a measurable way

Yes, I agree

0%

No, I disagree

0%



## Spend-based emissions calculations have had their day — within three years, all major operators will report scope 3 emissions through LCA's

Yes, I agree

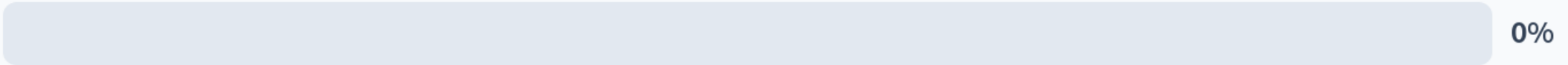
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No, I disagree

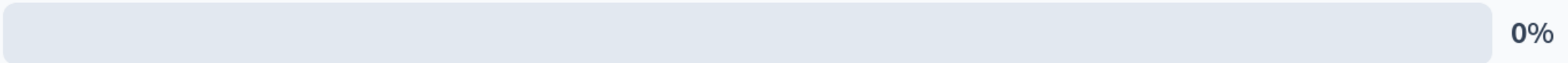
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## The NLconnect PCRs will become key references for product-level emissions reporting across the international fiber industry

Yes, I agree



No, I disagree



Because major operators have already invested in proper sustainability reporting under the CSRD, they now require product-level emissions data from their suppliers — pushing pressure for LCA-based data down the value chain

Yes, I agree

0%

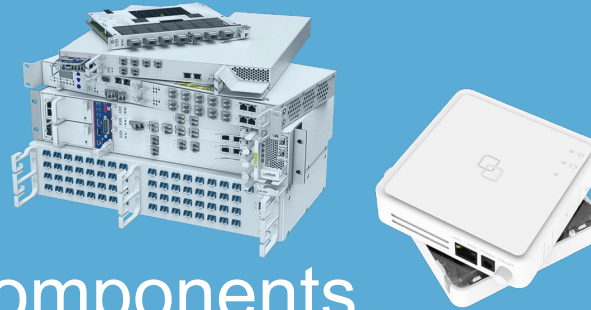
No, I disagree

0%

# Let's use it!



PCR for **active** components



PCR for **passive** materials



[www.nlconnect.org](http://www.nlconnect.org)





WHERE BROADBAND MEETS CONTENT

**The Presentations of the Technology Panels are  
available here:**

***Die Vorträge der Technik-Panels finden Sie unter:***

**<https://angacom.de/en/visitors/downloads>**

**Password: ac2025#download**