

# HOW TO START AN ISP FROM SCRATCH, WITH ZERO RESOURCES

*Timo Hilbrink, Freedom Internet*

WHY WOULD YOU START A NEW ISP ?

# A LITTLE HISTORY

XS4ALL was founded in 1993, as an offshoot of hacker organisation Hack-Tic, it was one of the first consumer ISP's in the Netherlands



**Hack-Tic geeft je toegang  
tot het Internet!**

**XS4ALL (Access for All)**

020-6902493 (12 lijnen)

Onze modems spreken 1200 bps tot en met 14400 bps, als je een ZyXEL-modem hebt kun je zelfs op 19200 bps inloggen.

Als je je aanmeldt door als 'new' in te loggen duurt het gemiddeld ongeveer een week voor je een acceptgiro krijgt voor 75 gulden (drie maanden). Dit is inclusief 15 uur gebruik per maand. Gebruik je in een bepaalde maand meer dan die 15 uur dan wordt op je volgende acceptgiro 2.50 per extra uur in rekening gebracht.

P.S. Geef ons (en vooral de giro) s.v.p. 14 dagen vanaf het moment dat je de accept op de bus doet om je account aan te zetten, wij krijgen maar eens in de week een afschrift.

Hack-Tic 20-21/1993

20

# A LITTLE HISTORY

XS4ALL was sold to KPN Telecom in 1998, but remained an independent subsidiary with its own network, infrastructure, systems and staff.

The company grew to become one of the larger ISPs in the Netherlands, and was known for their technical expertise, as well as a strong emphasis on privacy, security and net neutrality.

In January 2019 KPN announced that they were planning to remove the XS4ALL brand from their portfolio, and integrate all customers into the KPN infrastructure.

# HOW IT ALL STARTED

NOS Nieuws • Donderdag 10 januari 2019, 10:26 •  
Aangepast donderdag 10 januari 2019, 10:57



## KPN stopt met de merken XS4ALL en Telfort

KPN stopt met de merken XS4ALL, Telfort en Yes Telecom. De merken gaan op termijn verder onder de naam KPN. Door de samenvoeging verdwijnen er een onbekend aantal banen.

*“KPN will discontinue the XS4ALL, Telfort and Yes Telecom brands. These brands will eventually continue under the name KPN. It’s not yet clear how many jobs will be lost due to this merge”*

# HOW IT ALL STARTED

Customers were really not happy with this decision, because they feared that a lot of the technical benefits of their subscription would disappear. A petition was launched titled “*XS4ALL moet blijven*” (XS4ALL must remain)

The petition was signed 55.000 times within 4 weeks.

An action committee was set up to try and convince KPN to drop their plan, or even to sell XS4ALL



## XS4ALL must remain

55,024 signatures

KPN intends to let the brand name XS4ALL disappear. That is killing the goose that lays the golden eggs. XS4ALL is a strong brand, that is rated the best year after year by the Consumers' Association. XS4ALL is a champion of privacy and security and that should not disappear. The [crowdfunding for 'plan b'](#) has been successful and you can now become a member of the new provider: [Freedom Internet from 11-11 at 11:11. Become a member!](#)

### Petition

We

Customers, employees and supporters of XS4ALL

find that:

that you intend to discontinue the XS4ALL brand name

and requests

you do not want to proceed with this proposed decision and allow the XS4ALL brand name to remain in place.

### The Answer

**XS4ALL is being absorbed into KPN as of today**

XS4ALL as we have known it for 27 years no longer exists as of today. All XS4ALL employees received a letter just before this weekend stating that the 'transfer of business' will take place on 1 March. This means that as of today all XS4ALL staff will be employed by KPN. The letter makes it clear that customers will also be transferred to KPN. KPN wants to have all customers transferred to KPN technology by 1 January 2022 at the latest. The letter does not make any promises about retaining the special technical services that XS4ALL currently provides.









# HOW IT ALL STARTED

Meanwhile the XS4ALL works council started a court case against the board of KPN at the business chambers of the court, to argue that dissolving XS4ALL would have a negative financial impact, and would drive customers away.

They also argued that there was no immediate need for this merge, as XS4ALL was profitable, and had a reasonable market position.

# HOW IT ALL STARTED

However, after long case, the court eventually ruled in favour of KPN in december 2019, and the process to integrate XS4ALL in to KPN was started.



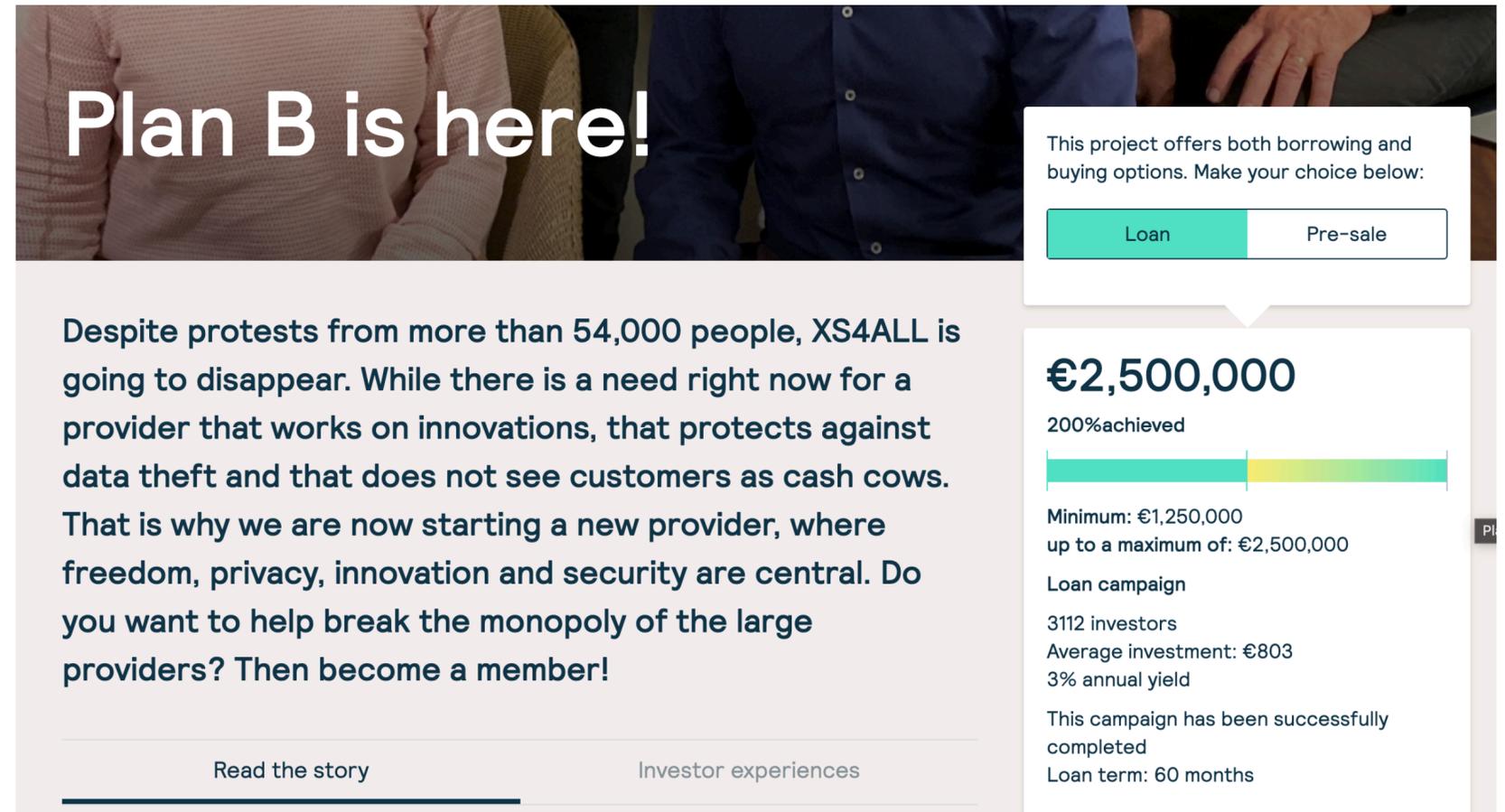
# CROWDFUNDING

When plan A fails, you need a plan B!

Plan B was to start a new ISP, built on the same core values, and with safe guards in place to ensure that this scenario can never be repeated.

The action committee started a loan based crowdfunding in november 2019, with a minimum goal of €1,250.000 and a maximum goal of €2,500.000

The maximum goal was reached within 4 days, by 3112 investors



**Plan B is here!**

Despite protests from more than 54,000 people, XS4ALL is going to disappear. While there is a need right now for a provider that works on innovations, that protects against data theft and that does not see customers as cash cows. That is why we are now starting a new provider, where freedom, privacy, innovation and security are central. Do you want to help break the monopoly of the large providers? Then become a member!

[Read the story](#) [Investor experiences](#)

This project offers both borrowing and buying options. Make your choice below:

Loan  Pre-sale

**€2,500,000**  
200% achieved

Minimum: €1,250,000  
up to a maximum of: €2,500,000

Loan campaign  
3112 investors  
Average investment: €803  
3% annual yield

This campaign has been successfully completed  
Loan term: 60 months

# A FRESH START

On 11-11 2019, at 11:11, a new dutch ISP was launched:

## Freedom Internet

Security and privacy by design

Digital freedom, free of surveillance

Transparency

Modern Internet standards

A safe and open internet

Excellent technical support



# STEWARD OWNERSHIP

Freedom employs a steward ownership model.

This means that control remains with a separate non-profit foundation which is dedicated to its mission, preventing external investors from influencing decisions solely for financial gain.

This structure safeguards Freedom's long-term commitment to providing privacy-focused internet services, as outlined in Freedom's corporate charter



# STEWARD OWNERSHIP

This control is held by “Stichting Appeltaart” (Apple Pie Foundation).

Stichting Appeltaart holds a part of the shares of Freedom Internet, as well as one preferential share. This means that the foundation has the power to veto any changes or actions that are not in correspondence with the corporate charter.



# STEWARD OWNERSHIP

When Freedom generates profit, a part of this will flow into the foundation, which will act as a fund from which initiatives for innovative and/or social solutions relating to the internet can be financed.

In addition to the foundation, there is another safeguard in place, the domain name freedom.nl has been loaned from Bits of Freedom, the dutch Digital Rights Organisation. If we fail to uphold our goals, BoF can reclaim this domain name, rendering Freedom Internet useless without it's primary domain name.



**BITS OF  
FREEDOM**

# STARTUP

In march 2020, the first Freedom Internet FTTH connection was delivered, followed by several test batches to test our own freshly built order management system



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# CERTIFICATES

Starting up an ISP is expensive, really expensive.

More financial resources were needed to invest in equipment and infrastructure as Freedom went from start-up to growth,

This time customers and supporters were offered the option to buy their share in Freedom.

Shares (certificates) were offered at €250

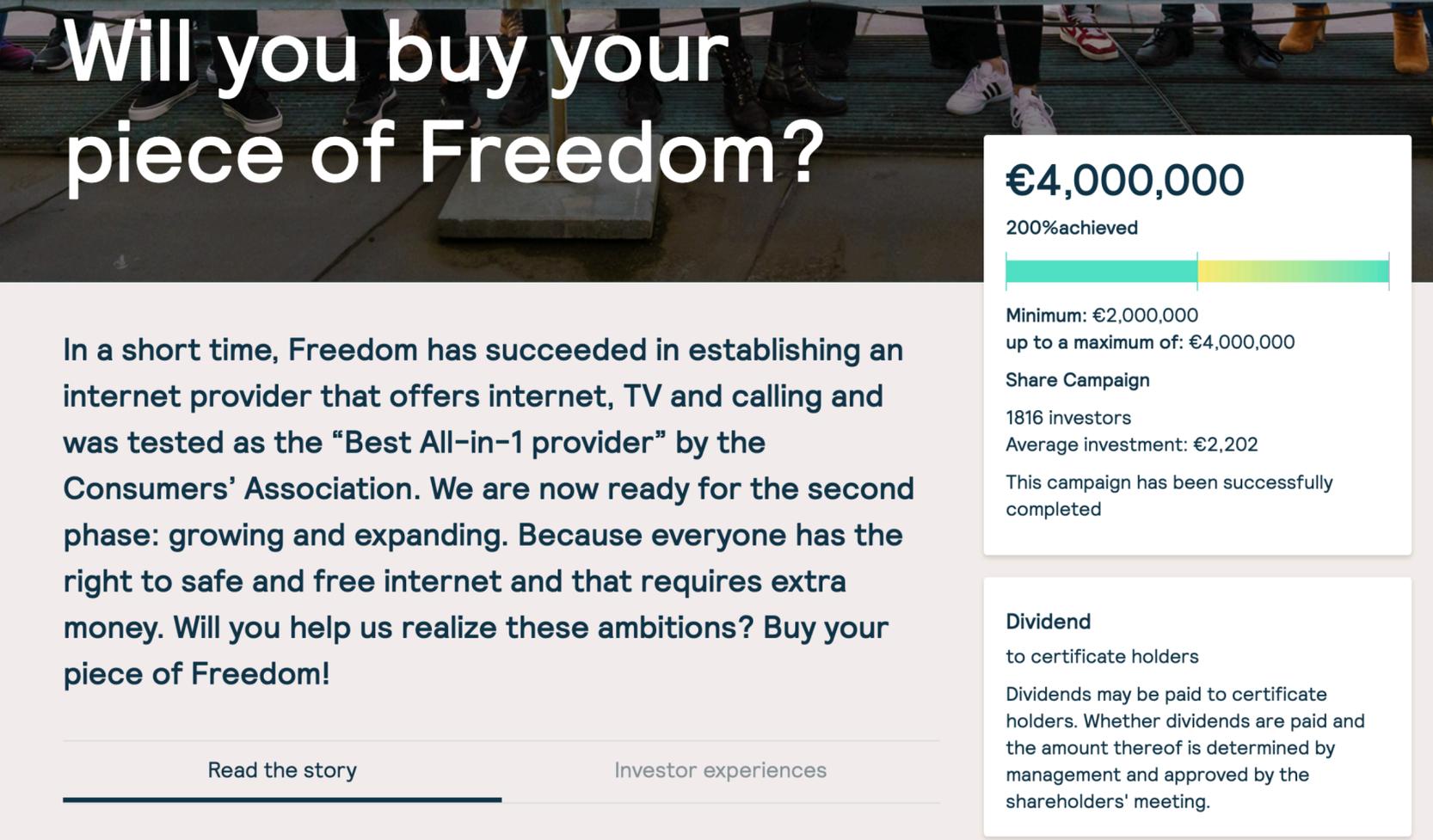
There were 2 certificate sale rounds.



# CERTIFICATES

The first round was in June 2021, with a minimum of €2,000,000 and a maximum of €4,000,000 (16,000 certificates)

The maximum number of certificates was sold within 2 weeks, to 1816 certificate holders



## Will you buy your piece of Freedom?

€4,000,000  
200% achieved

Minimum: €2,000,000  
up to a maximum of: €4,000,000

Share Campaign  
1816 investors  
Average investment: €2,202  
This campaign has been successfully completed

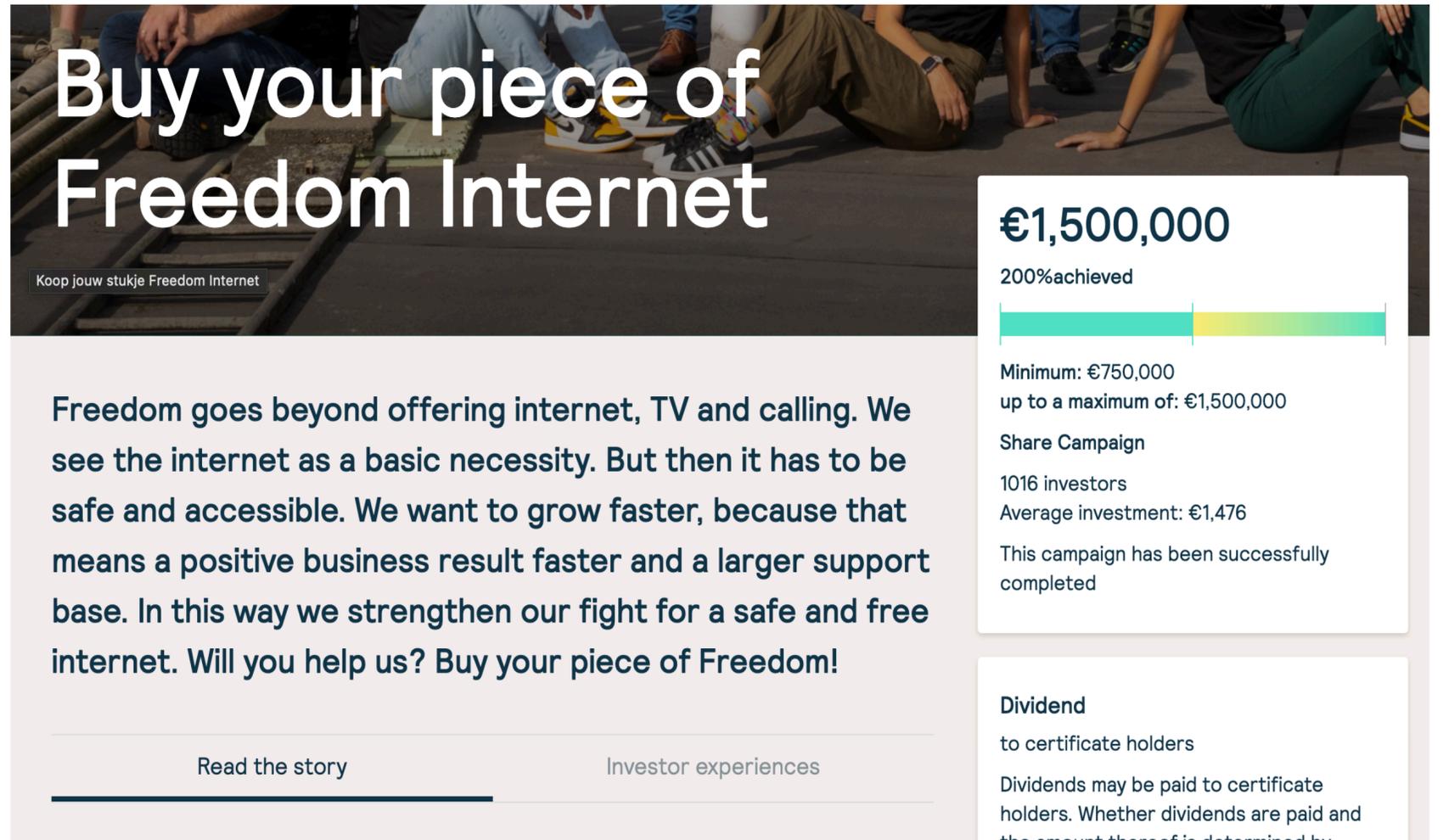
Dividend  
to certificate holders  
Dividends may be paid to certificate holders. Whether dividends are paid and the amount thereof is determined by management and approved by the shareholders' meeting.

[Read the story](#) [Investor experiences](#)

# CERTIFICATES

The second round was in december 2022, with a minimum of €750.000 and a maximum of €1,500.000 (6,000 certificates)

The maximum number of certificates was sold within a few weeks weeks, to 1016 certificate holders



**Buy your piece of Freedom Internet**

Koop jouw stukje Freedom Internet

**€1,500,000**  
200% achieved

Minimum: €750,000  
up to a maximum of: €1,500,000

Share Campaign  
1016 investors  
Average investment: €1,476

This campaign has been successfully completed

Freedom goes beyond offering internet, TV and calling. We see the internet as a basic necessity. But then it has to be safe and accessible. We want to grow faster, because that means a positive business result faster and a larger support base. In this way we strengthen our fight for a safe and free internet. Will you help us? Buy your piece of Freedom!

[Read the story](#) [Investor experiences](#)

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# CORE VALUES

The core values of Freedom Internet are privacy, security, and transparency.

So how is this implemented?

Do not record customer personal data unless absolutely necessary.

Do not share customer personal data with partners unless absolutely necessary.

Only work with partners that can guarantee the same strict privacy protection.



# CORE VALUES

Don't use 3rd party cookies or tracking links/pixels on website or in emails, only fully anonymised functional and analytical cookies are used.

Do not use public cloud storage or applications

In internal communication, never share personal details, only links to internal systems

Implement the latest ciphers for SSL and TLS

Keep logs and other records only for as long as strictly necessary

Use open source software where possible (99%)



Gitlab Prometheus PostgreSQL Dovecot  
Prometheus GenieACS Discourse Netbox  
Ruby Debian ACS LimeSurvey  
Debian BigBlueButton Wireguard  
PowerDNS Nextcloud Mattermost  
Ansible SnipeIT Attermost Keycloak  
Zammad Matomo SOGo  
Grafana

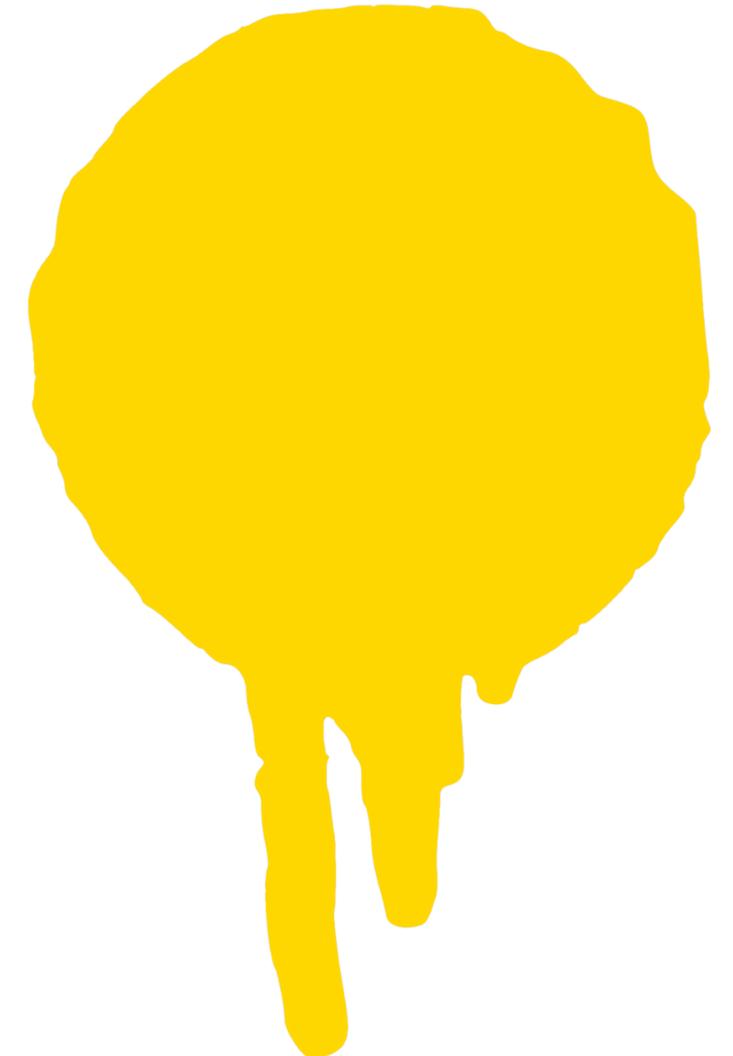
# INTERNET RESOURCES

When Freedom started off in late 2019, RIPE had just ran out of IPv4, so we were only able to get a /24 from the the recovered pool.

IPv6? Of course!

Early surveys among potential customers showed there was a strong demand for full dual stack with native IPv4.

Leasing of address space is the only option, and these costs are calculated into our subscription rates.



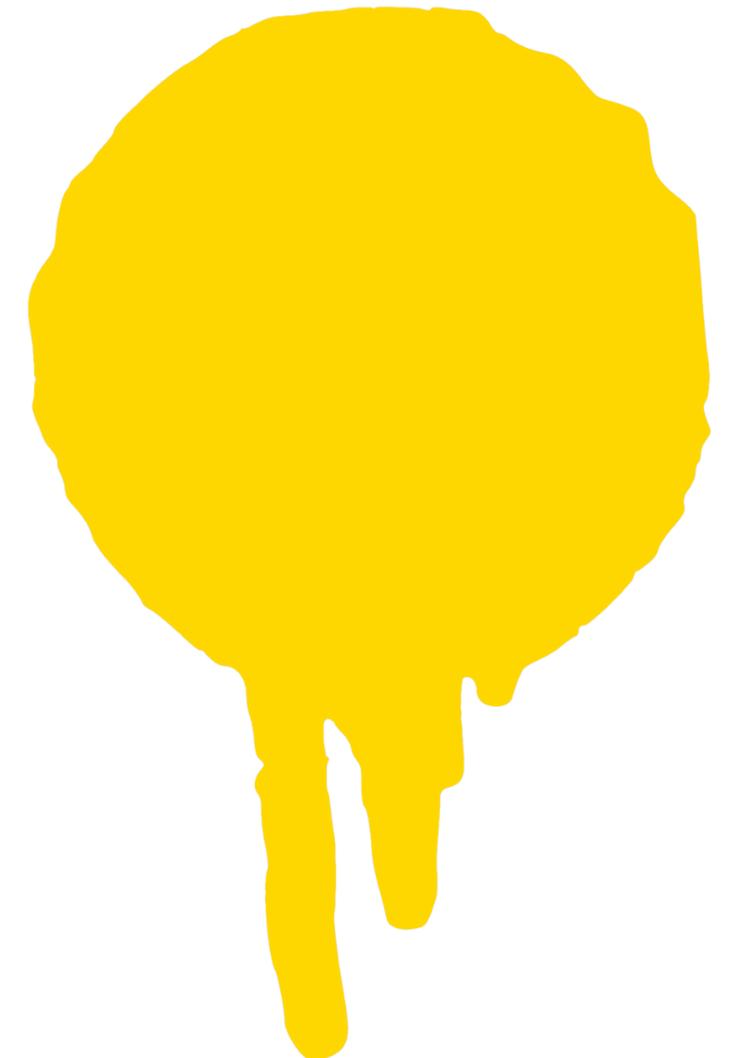
# TECHNICAL CHALLENGES

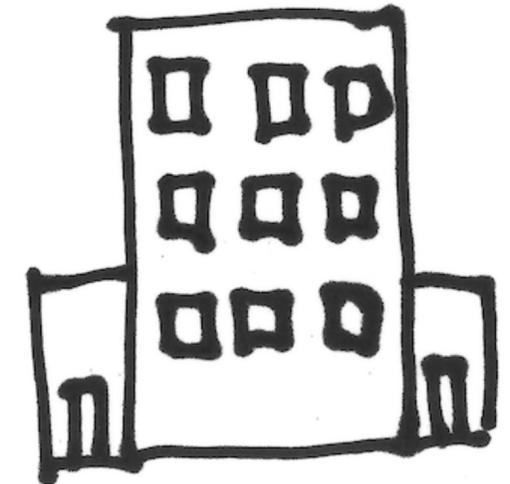
## Easy:

Set up a redundant network, 2 datacenter locations, deploy servers, switches and routers, connect to IXP's and IP transit providers.

## Hard:

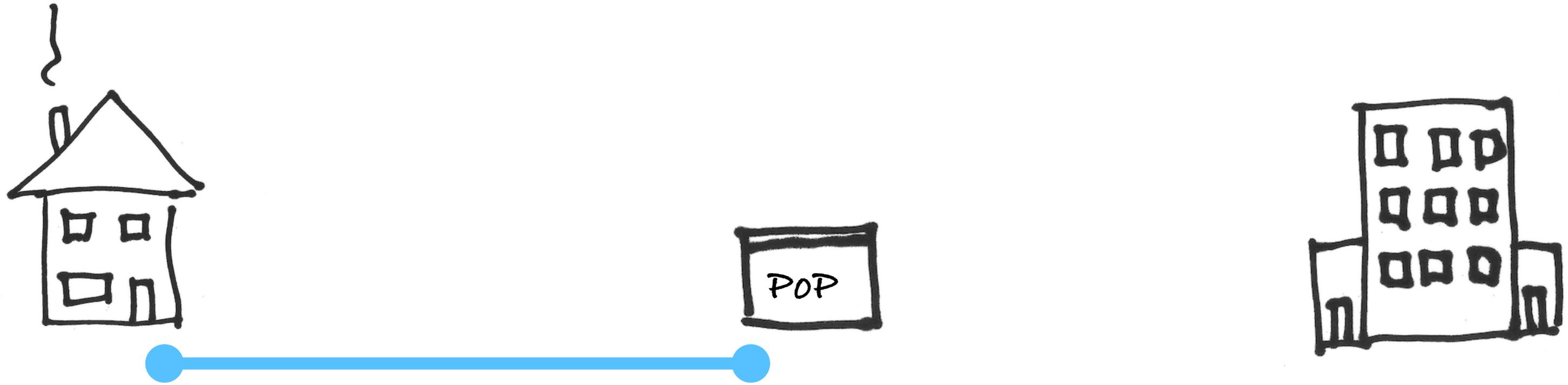
FTTH infrastructure and logistics that come with unbundled access





Layer 1: Fiber (local loop)

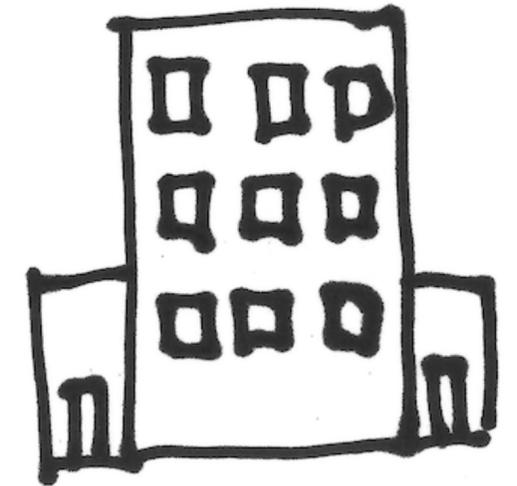
Property of the company that deploys the physical fiber and the PoP, this includes passive fiber termination equipment. Can be AON or PON



Layer 1: Fiber (local loop)

Layer 2: Operator

The operator lights up the fiber, and provides active termination equipment in home and PoP. Bundles subscriber connections for delivery to an ISP through a transport network



Layer 1: Fiber (local loop)



Layer 2: Operator



Layer 3: ISP

# TECHNICAL CHALLENGES

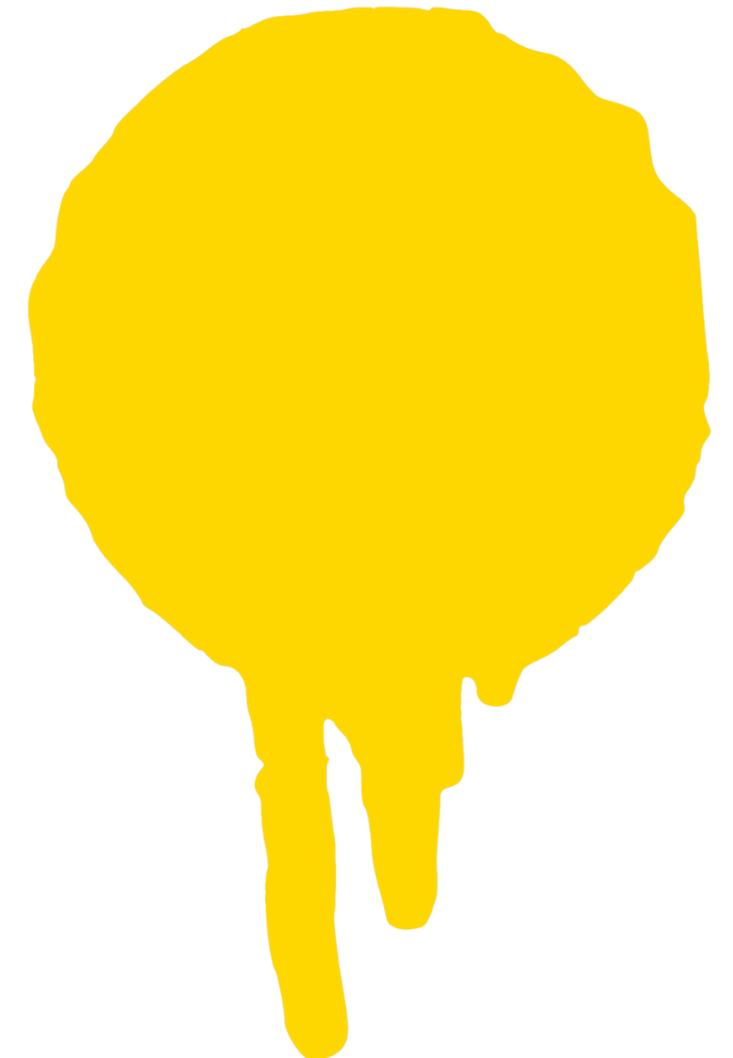
Freedom deals with 6 operators, each with their own pricing, availability check, order management, incident management and interconnection technology

Between them there are roughly 20 local loop providers, more than 10 types of FTU

In most cases every operator / local loop combination has its own set of equipment.

AON: 8 types of NTU

PON: 10 types of ONT



# PARTNERSHIPS

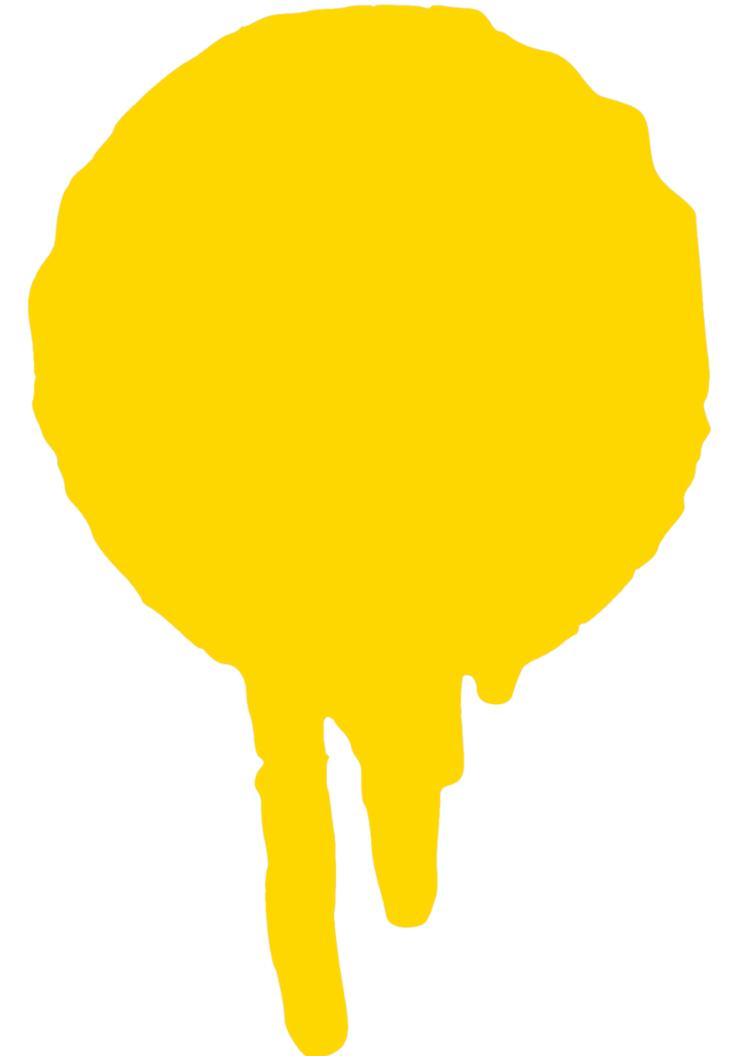
From the start Freedom has collaborated with partner companies to provide essential services to its customers.

## **Soverin**

Dutch e-mail provider that provides secure e-mail services, and works with the same privacy and security principles as we do

## **Voys**

Dutch VoIP provider that has supported the launch of Freedom, and participated in the crowdfunding



# PARTNERSHIPS

## **CANAL+**

Together we have developed a way to supply their television product on our network, without jeopardising the privacy of our customers

## **TriNed**

Dutch colleague ISP and operator, that we share certain parts of our infrastructure with, and that supplies us with other services like financial administration, helpdesk and HR

## **AVM**

Our CPE vendor that supplies modem/routers to connect to our ever changing range of fiber termination hardware



# WHERE ARE WE NOW

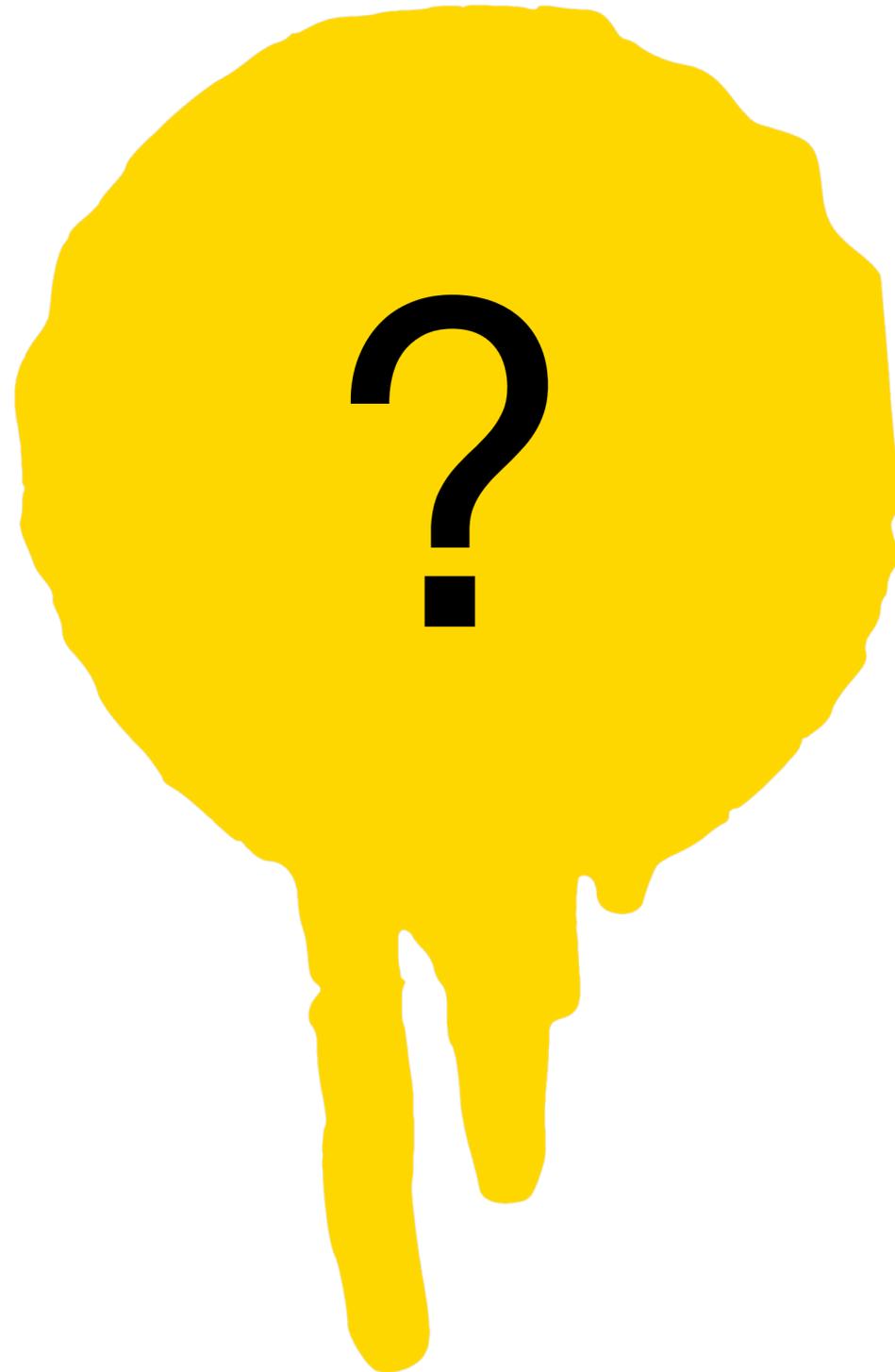
Six years on, Freedom internet is still growing at a steady rate, and has been awarded “Best all in one Internet Service Provider” in the Netherlands by the dutch consumer board 10 times, for 2 years in a row.

MANRS participant

Of all dutch ISP's Freedom has the largest footprint (number of addresses available).

With a team of 16, we are working on further improving our existing services, developing new services that our customers are asking for, and continue to support initiatives that improve internet safety and transparency





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