

State of play for broadband deployment in Denmark

Targets and coverage



Agency for Data Supply
and Infrastructure

Political targets in Denmark

2021 political agreement:

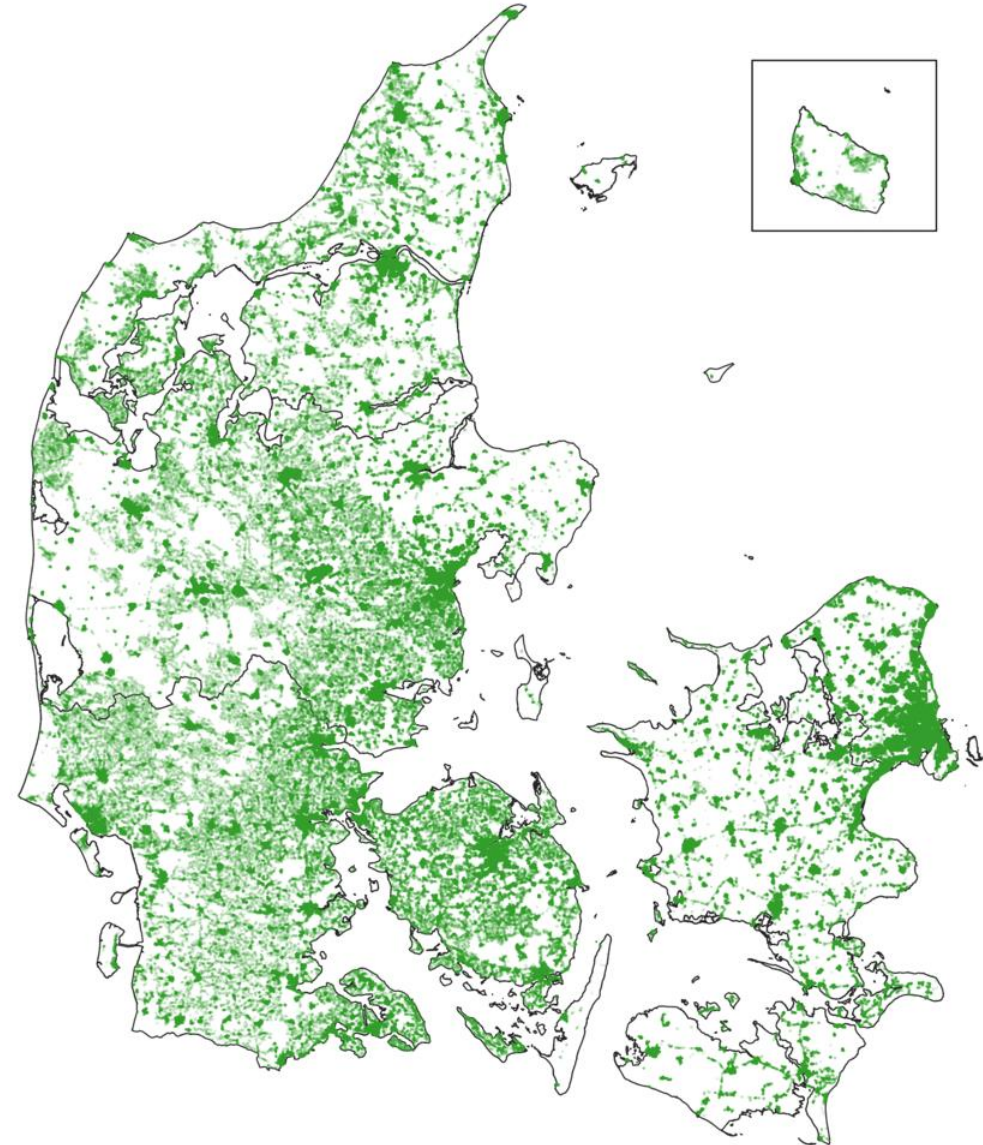
- In 2025, all households and businesses shall have access to broadband with speeds of at least 100/30 Mbps, and
- 98 percent shall be covered by infrastructure that can provide speeds of at least 1 Gbps (download)

Two guiding principles:

- Technology-neutral regulation
- Market-based deployment

Status on targets (2023)

- Annual broadband mapping
- 100/30 Mbps target:
 - 98 pct. coverage
- 1 Gbps target:
 - 94 pct. coverage



Danish telecom market

- Close to full coverage with a low degree of public funding
- Strong competition – high ambitions
 - “Who deploys first!” Fiber especially
- Different types of market players
 - Commercial: Shorter ROI
 - Cooperatively owned: Longer ROI
 - Companies are (in general) deploying in geographically defined areas
 - Several companies strive for full coverage in these areas securing broadband for their owners.



Tjekditnet.dk

- Usage of broadband mapping
- Consumers etc. may look up broadband coverage at address level on www.tjekditnet.dk
- Available information on each address: technologies, speeds and providers
- Data is published on maps – both for fixed and mobile broadband
- All data is available for download
 - Network owners use tjekditnet.dk in their planning of deployment

Find udbydere

Se, hvem der udbydere, hvor du bor

Rentemestervej 8, 2400 København NV

Overblik over dine muligheder

Hastighed ?	Forbindelse ?	Udbydere ?
28 / 2 Mbit/s *	Kobbernet (xDSL)	▼ Vis udbydere
200+ Mbit/s	Mobilt bredbånd ***	▼ Vis udbydere
Dækning	Mobil tale ***	▼ Vis udbydere
Kun til erhverv		
20 / 2 Mbit/s *	Kobbernet (xDSL)	▼ Vis udbydere
1000 / 1000 Mbit/s	Fiber	▼ Vis udbydere

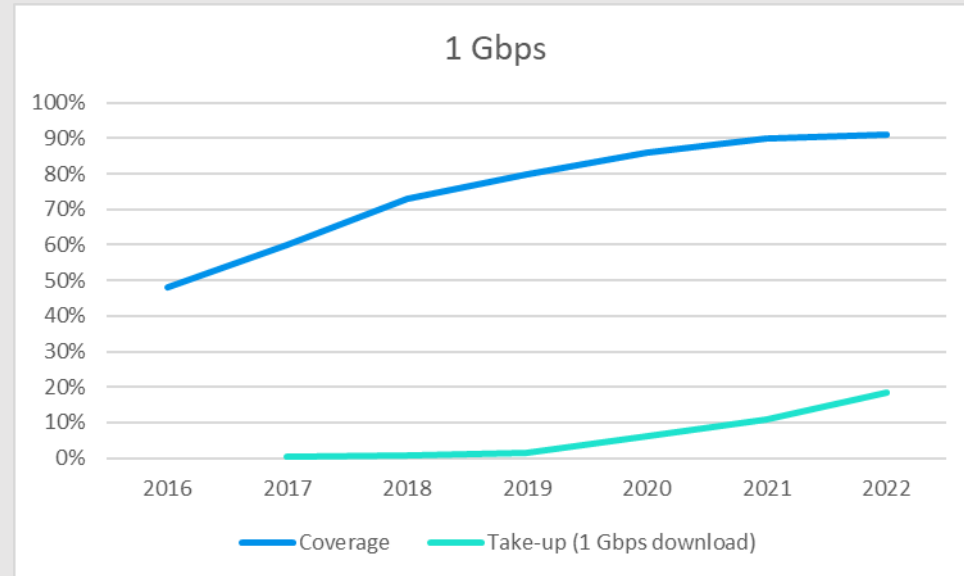
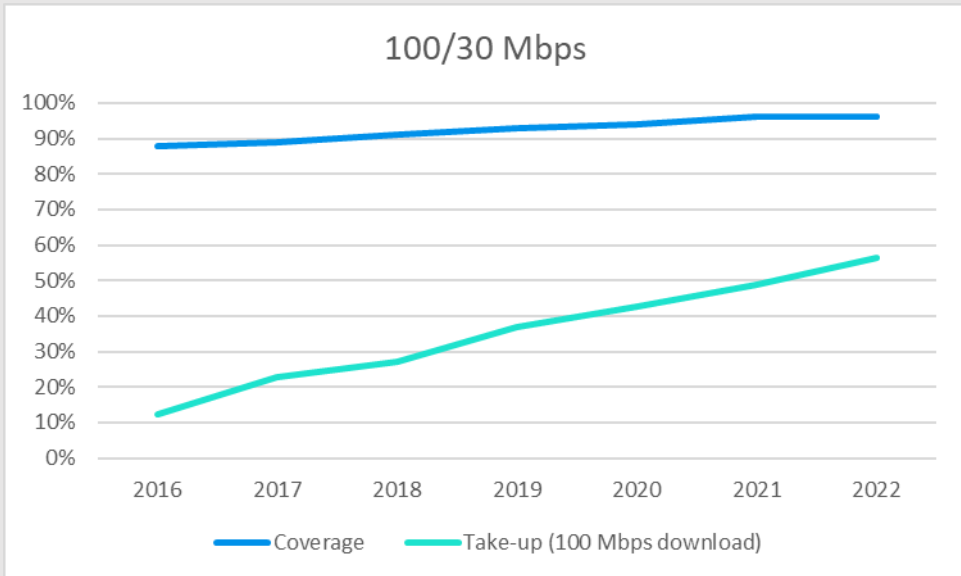
* Hastighed leveret via pair bonding ?

*** Udendørs dækning ?

[Flere muligheder >](#)

Take-up and coverage

- Gap between supply and consumer demand



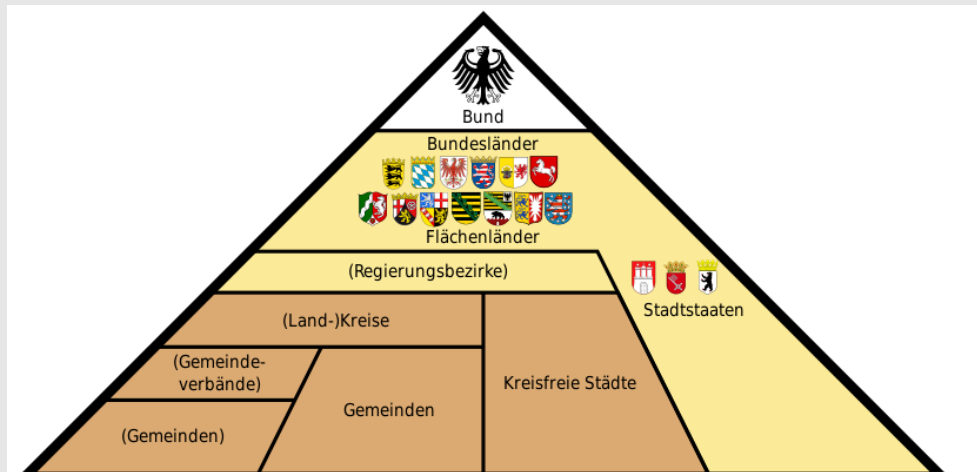
How to get a digging permit in Denmark

Rules & digital application procedures

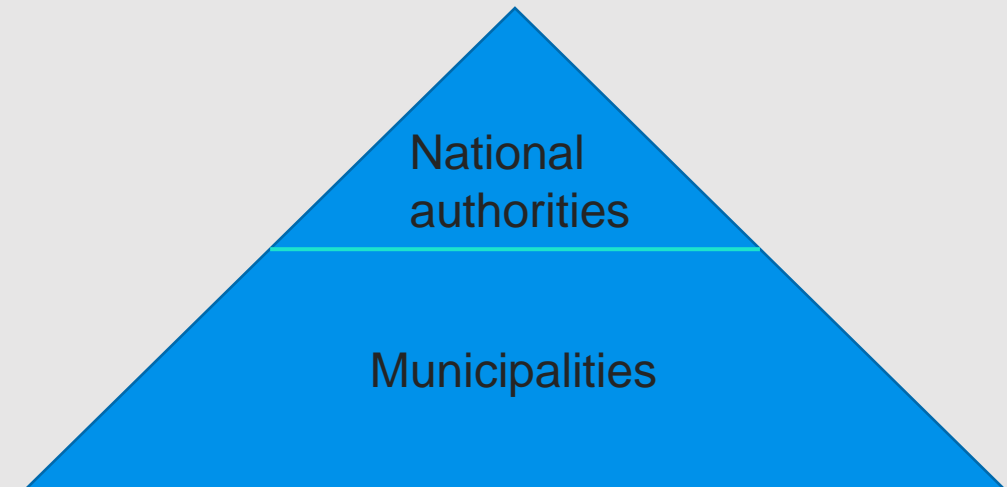


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Germany / Denmark: Administrative layers



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Comparison Schleswig-Holstein / Denmark

Schleswig-Holstein (pop. ~3 million, 15.763 km²)

Denmark (pop. ~6 million, 42.951 km²)

S-H hat 1104 politisch selbstständige Gemeinden:

•63 Städte, darunter

- 4 kreisfreie Städte, darunter die Landeshauptstadt Kiel,
- 2 Große kreisangehörige Städte,
- 41 amtsfreie Städte (sie erledigen alle Aufgaben in eigener Zuständigkeit),
- 4 amtsfreie Städte, die Teil einer Verwaltungsgemeinschaft sind,
- 12 Städte in Ämtern,

•1041 sonstige Gemeinden, darunter

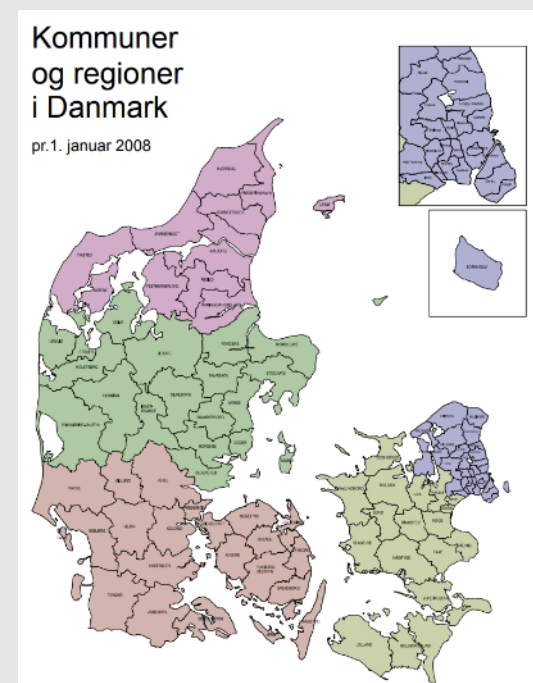
- 21 amtsfreie Gemeinden,
- 12 amtsfreie Gemeinden, die Teil einer Verwaltungsgemeinschaft sind,
- 1008 Gemeinden in Ämtern.

1020 Gemeinden, davon 12 Städte, haben sich zur Erledigung ihrer Verwaltungsgeschäfte in 84 Ämtern zusammengeschlossen.

84 Ämter + 41 amtsfreie Städte + 21
amtsfreie Gemeinden + x =

146+ local authorities

- 98 municipalities (*kommuner*)
- 5 regions (only healthcare)

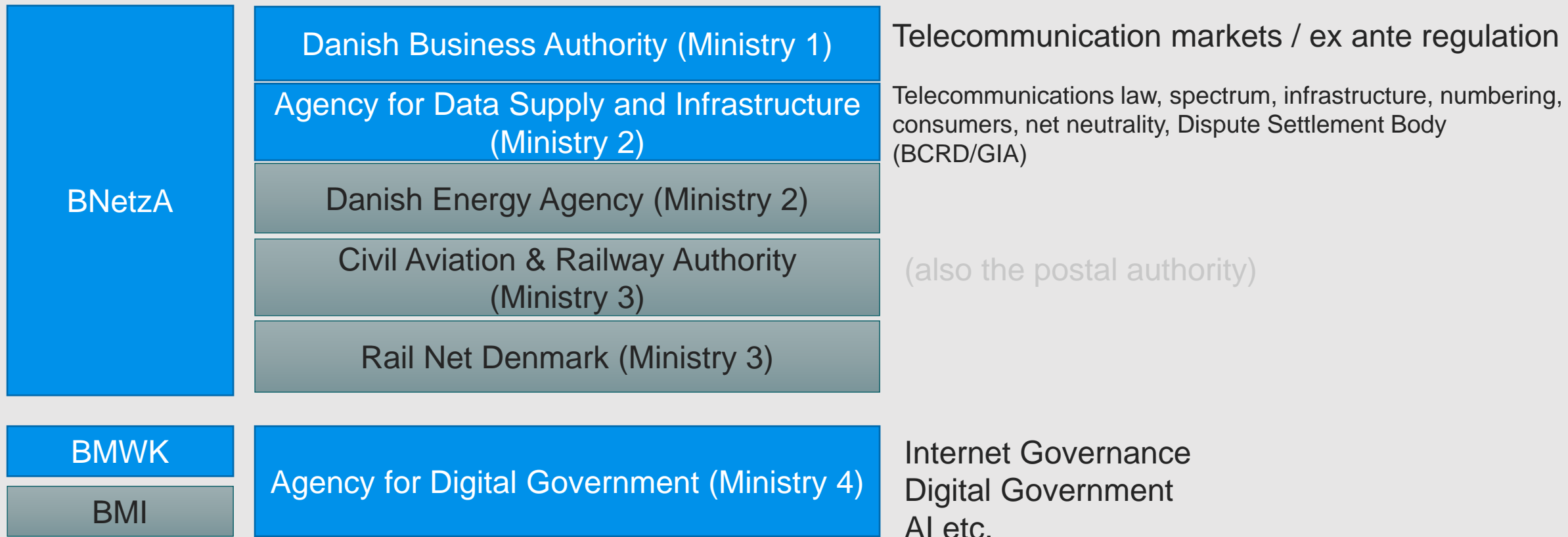


= 98 local authorities

National telecommunication & digital authoritie(s)

– rough correspondence DE/DK

Blue box = telecommunication authority
Grey box = other type of authority



E-government in Denmark – framework

- Central Person Register & CPR number since 1968 (real-time digital transfer of data from local authorities to national registry since 1991), Central Business Register since 1999
- Every individual and every company has one login used for everything:
 - Register new address
 - Divorce
 - Sign documents for a loan with your bank
 - Access your health records
 - Apply for a permit to dig in the streets
 - Log into the official mailbox containing:
 - Your payslip from your employer
 - Mail from your bank, pension, insurance...
 - Your digging permit

The screenshot shows the NEMLOG-IN login page for Styrelsen for Dataforsyning og Infrastruktursystemer. At the top, there are navigation tabs for 'MitID', 'NemID code card', 'NemID code file', and 'Local IdP'. The main content area includes a header with the agency name and logo, a 'USER ID' input field, a 'CONTINUE' button, and a 'Remember me' checkbox. There are also links for 'Lost user ID?', 'Accessibility statement', and 'The General Data Protection Regulation'. The right sidebar contains sections for 'Operating status' (Normal operation), 'Need to logon with NemID?' (instructions for computer and mobile login), 'More information' (links to Security, Help to log-on, About Nemlog-in, More about NemLog-in cookies, and Read about MitID Erhverv), 'Accessibility' (link to Accessibility statement), and 'The General Data Protection Regulation' (text about data processing and retention).

Digging permits (roads)

- Issued by the local municipality
 - (Motorways: National authority)
- The right to have your cables in the ground and remain there is included
- The fastest municipalities grant permits in simple cases in 1-2 days
- Not needed on private property (except private roads in towns)
- Contains conditions – time, traffic precautions, reestablishment, size...
- Additional permits only needed in special cases (coast, nature...)



Procedure for getting a digging permit

Prepare

- Check for other cables in the area to avoid digging damage
- Publish your plans to dig (coordination)

Apply

- Provide information on scope, duration etc.
- Receipt from coordination platform

Dig

- Permit specifies time & conditions
- Notify municipality when finished

Excavation damage avoidance & coordinated digging

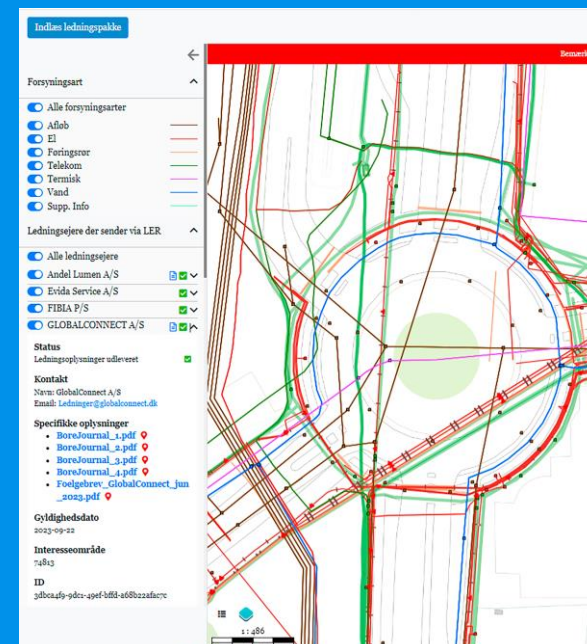
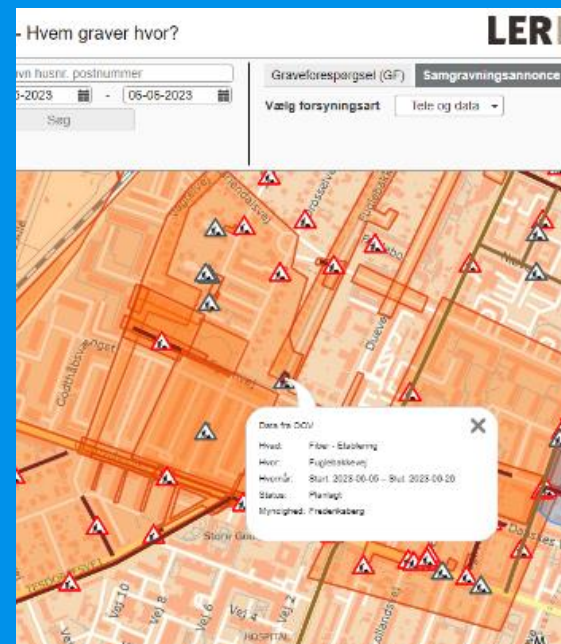
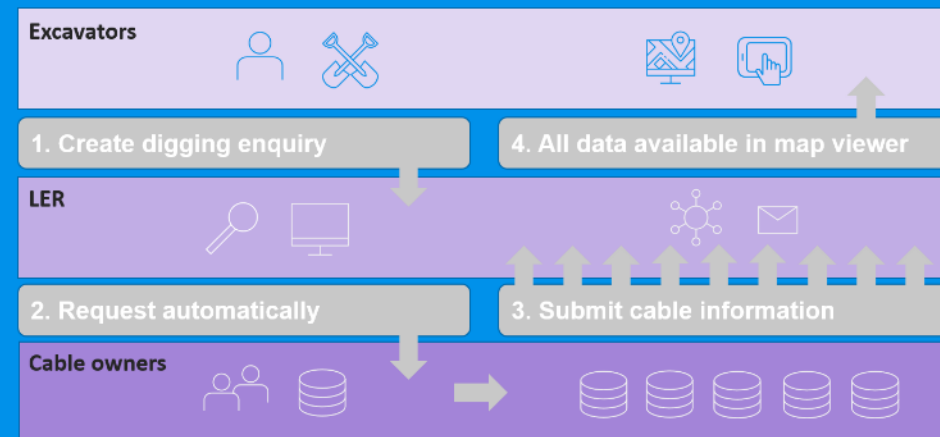
The Register of Underground Cable Owners (LER)

- Before digging, excavators are obliged to seek cable information in LER
- Digitalised cable information enables:
 - standardised format
 - display application
 - short deadline (two hours)

Coordinated digging

- LER facilitates coordinated digging
- All planned & ongoing works are public at graveinfo.ler.dk

Concept of LER 2.0 (July 1, 2023)



Applying

- All municipalities use one of two (similar) digital application systems
- Online fill-in of information & upload of any documents (e.g. schematics, coordination receipt)

Ny ansøgning Gem som kladde

1. Oplysning om ansøger
✓ Udfyldt

2. Oplysninger om arbejdet

3. Ansvarlig på arbejdsstedet

4. Koordination

5. Dokumenter og tegninger

6. Gravested på kort

7. Gravesteds detaljer

8. Ledningsejer

9. Entreprenør

10. Faktura adresse

11. Opsummering og indsendelse

Oplysninger om arbejdet

Ansøgningstype
Ansøgning

Hvis du vælger typen 'Anmeldelse' skal du være opmærksom at der efterfølgende kan komme betingelser der skal tages stilling til

Periode

Startdato *
Datoen skal indtastes i formatet dd-mm-åååå

Slutdato *
Datoen skal indtastes i formatet dd-mm-åååå

Ledningsoplysninger

Ledningstype *

Ledningsnetdel *

Arbejdets art

Øvrigt

Afmærkning *

Indtast tegningsnummer og eventuelle bemærkninger til afmærkningsplan. Vejledning vedr. afmærkningsplan kan ses her [Afmærkningsvejledning \(by\)](#) [Afmærkningsvejledning \(land\)](#)

Trafikale ændringer

Requirements once you have the permit

- Compliance with conditions
- Warning signs (traffic safety)
- Potential liability for any digging damage
- Obligation to reestablish the road surface / pavement
- Keep works within the specified time period
- Notify the municipality when finished





Policy goals and dialogue enable flexibility

- Parliament has agreed that:
Telecom policy must promote a simple, clear and predictable framework for private investments in telecom area, and simultaneously reduce barriers and burdens for private investments in digital infrastructure.
- Concrete initiatives for easier digging also agreed (guidance, notification after the fact for small works)
- Ongoing dialogue between the national authorities, municipalities and operators to solve issues together

What's new with the Gigabit Infrastructure Act

- 4-month deadline
- Obligation to publish planned works 2 months before applying (waiting time)
- GIA may add some extra bureaucratic steps in Denmark's context
- Early announcement may also enable more joint digging?
- Working with stakeholders to make GIA work well in practice



Questions?

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Additional slides on digging damage and coordination

... in case of questions

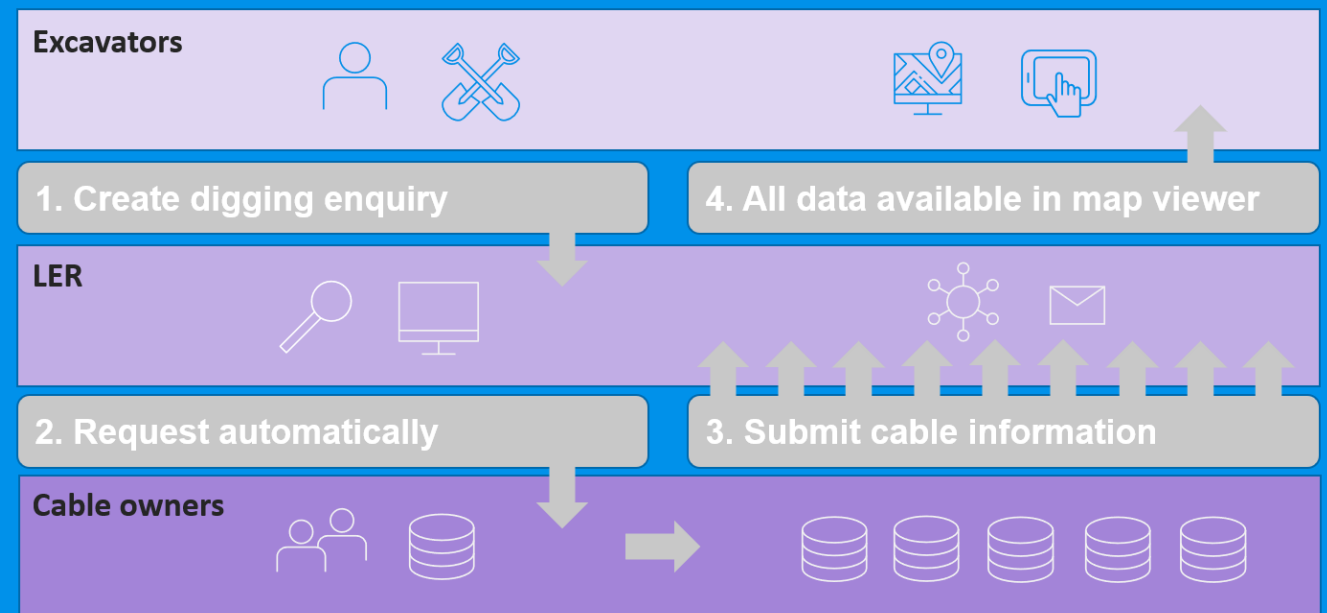


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Digging damage avoidance

- Before digging, excavators must create a digging enquiry in the Register of Underground Cable Owners (LER)
- Enables requests for information on existing cables in the area to all cable owners in the area
- Standardised format + display application
- Accuracy of information is the responsibility of each cable owner

Concept of LER 2.0 (July 1, 2023)



Coordination of works

- Before applying, excavators have to investigate possibilities of coordinated digging
- No specific time limit, but before applying
- All planned & ongoing works are public at graveinfo.ler.dk

Hvem graver hvor?

own husnr. postnummer

05-2023 - 06-06-2023

Søg

Graveforespørgsel (GF) Samgravningsannonce (S)

Vælg forsyningsart Tele og data

Data fra OOV

Hvad: Fiber - Etablering

Hvor: Fuglebakkevej

Hvornår: Start: 2023-06-05 - Slut: 2023-06-26

Status: Planlagt

Myndighed: Frederiksberg

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Coordinated digging – procedure

- Fill in information about your excavation work – date, location etc.
- The system will automatically show you relevant other digging enquiries and planned works in the same area and contact information
- The system generates a receipt that you can use to prove that you have investigated possibilities to coordinate

LER III Ledningssejrerregistret

Søg ledningsoplysninger | Ledningsejere | Myndighedsadgang | Samgravning | Samføring | Gr...

Samgravningsannoncer

Opret samgravningsannoncer | Søg i samgravningsannoncer

1 Samgravningsannoncer | 2 Kvittering

Titel * Fibre deployment work

Tidligste startdato * 01-06-2023 Format "dd-mm-åååå"

Udløbsdato 01-06-2025 Format "dd-mm-åååå"

Forsyningsart *

El Afledt
 Vejafvanding Olie
 Føringsror Term

Resultat af samgravningsanalysen

Vejlg de gravesteder, du ønsker at LPB sendes en mail med anmeldelse om koordinering til. For at gå videre, tryk "Udvalgt" i bunden af listen.

De valgte muligheder kommer med på din kvittering.

Når du genlæser en samgravningsanalyse, så viser listen kun de annoncer, der er kommet til inden du valgte sende analysen. Listen over graveforspørgsler genlæses.

Graveforspørgsler

Gravestår	Ejers bemærkninger	Gravperiode	Forsyningsarter
Kontakt: Ørumskov 11, 87 54 09 11, Møst, Søerne 14, 1117 København K, 0444 København K		12. december 2019 til 12. december 2021	El, Vejafvanding, Føringsror
Kontakt: Ørumskov 11, 87 54 09 11, Møst, Søerne 14, 1117 København K, 0444 København K		12. december 2019 til 12. december 2021	El, Vejafvanding, Føringsror
Kontakt: Ledningsvej 11, 43 42 47 45, Søerne 14, 1117 København K, 0444 København K		14. december 2019 til 13. december 2021	Føringsror
Kontakt: Ledningsvej 11, 43 42 47 45, Søerne 14, 1117 København K, 0444 København K		21. december 2019 til 1. december 2021	El

LER III Ledningssejrerregistret

Announce nr. 4149
Dato 24-05-2023
Web www.ler.dk

Kvittering for Samgravningsannoncer

Samgravningsannoncer er foretaget af:

Marieke van den Pol
Rentemestervej 8
2400 København NV
☎ 72 54 59 69
✉ mavan@sdfc.dk

Oplysninger om samgravningsannoncer:

Announce nr. 4149
Titel Fibre deployment work
Beskrivelse Fibre deployment work at Rentemestervej
Oprettelsesdato 24-05-2023
Announceperiode 01-06-2023 til 01-06-2025

Samgravningsannoncens kontaktperson:

Marieke van den Pol
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2400 København NV
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