

Tunnelmodell - Hva er godt eller godt nok?

Erfaringer fra:

- Dobbeltspor fra Nykirke – Barkåker
- Oppfaring Gruve N91
- E6 Ranheim Værnes
- E6 Kvænangsfjellet
- E6 Svenningelv - Lien

LNS – from pole to pole



Leonhard Nilsen & Sønner (LNS) ble etablert i 1961 av Malvin Nilsen og hans far Leonhard Nilsen. Siden etableringen har selskapet vokst fra å være en tradisjonell nordnorsk familiebedrift til å bli et konsern som i 2021 består av 13 selskaper. LNS konsernet har i dag ca 800 ansatte og en omsetning på ca 2,7 milliarder kroner.

Hva gjør LNS?

- Tunneler og fjellhaller; Gruvedrift, vannkraft og infrastruktur
- Veibygging
- Gruvedrift
- Betongkonstruksjon
- Masseforflytning
- Unik kompetanse fra polare området
- Produksjon av moduler og treelementer



Dobbelspor Nykirke - Barkåker

Det italienske arbeidsfellesskapet SAPI NOR AS har inngått kontrakt på 3.660 MNOK med Bane Nor for bygging av 13.6 km dobbeltspor på Vestfollbanen.

LNS har sprengt de to fjelltunnelene som inngår i prosjektet som underentreprenør. Prosjektet er utførelsesenterprise basert på NS8415.

Tunneldrift august 2019 – april 2022

Gråmunktunnelen	1.061 m	130 m ²
Skottåstunnelen (syst. injeksjon)	2.259 m	130 m ²
Adkomsttunnel	275 m	60 m ²
Rømningstunnel	175 m	25 m ²



Oppfaring Gruve N91



Byggherre:

Rana Gruber

Tunnellengder:

Feltort:

1.243 m (52 m²)

Bortort:

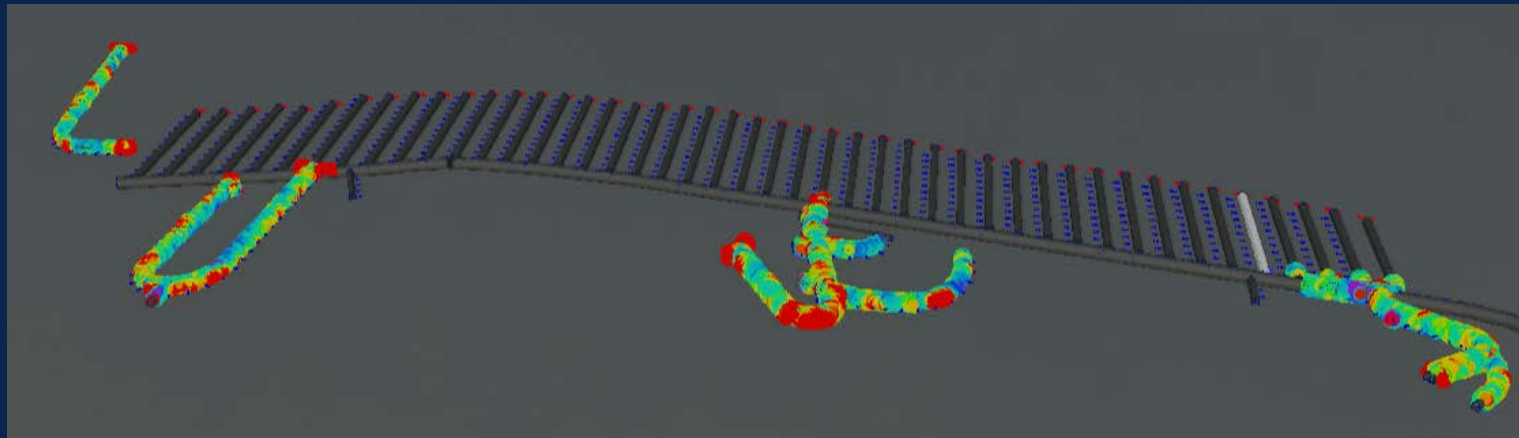
810 m (30 m²)

Andre:

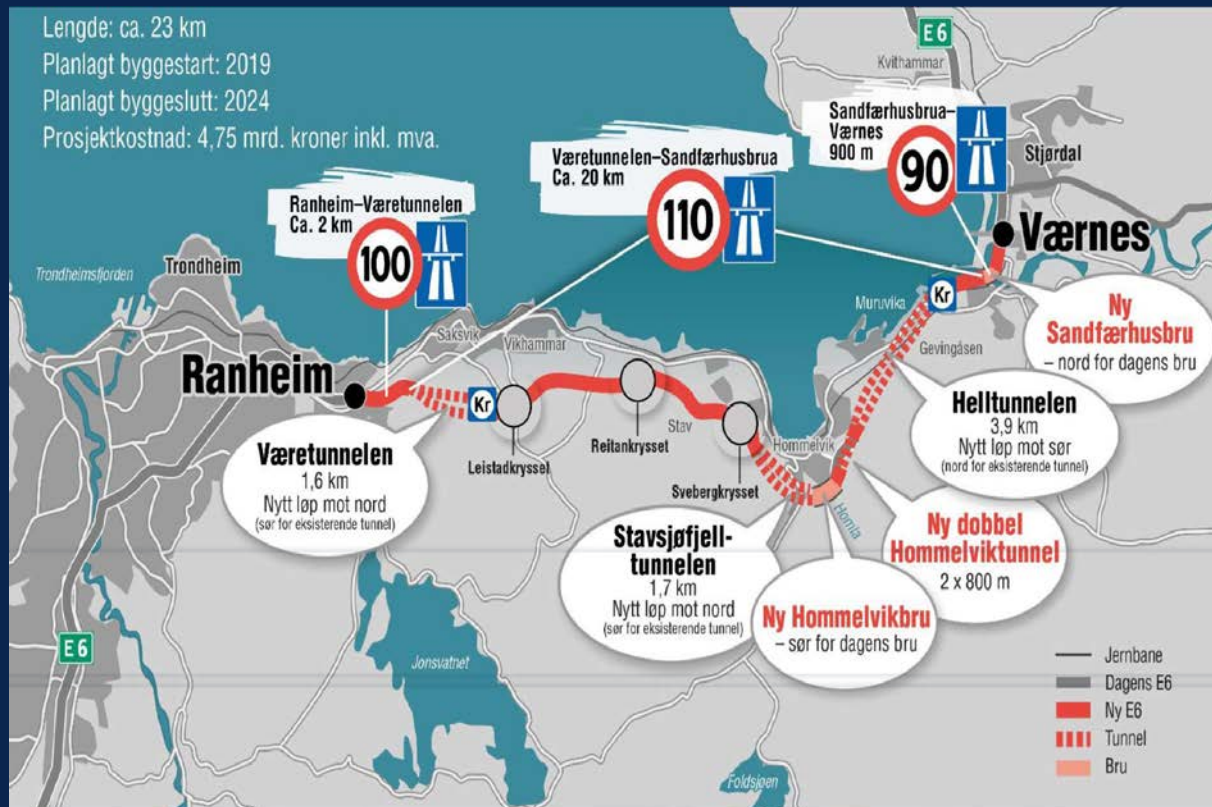
1.300 m (30-42 m²)

Byggeperiode:

Mai 2022 – Sep. 2023

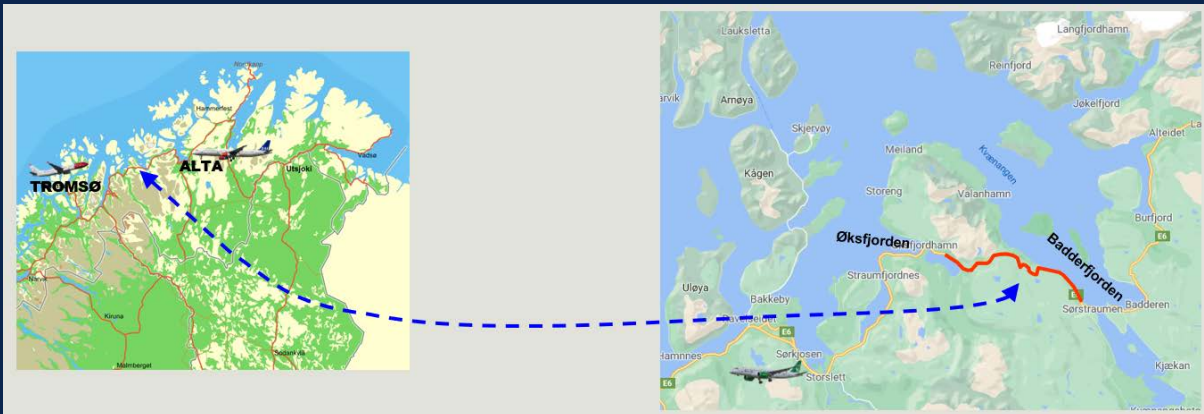


E6 Ranheim Værnes



Byggherre:	Acciona Construcción
Stavsjøfjell-tunnel:	1750 m
Hell-tunnelen:	3850 m
Byggeperiode:	Mai 2021 – Sep. 2022

E6 Kvænangsfjellet

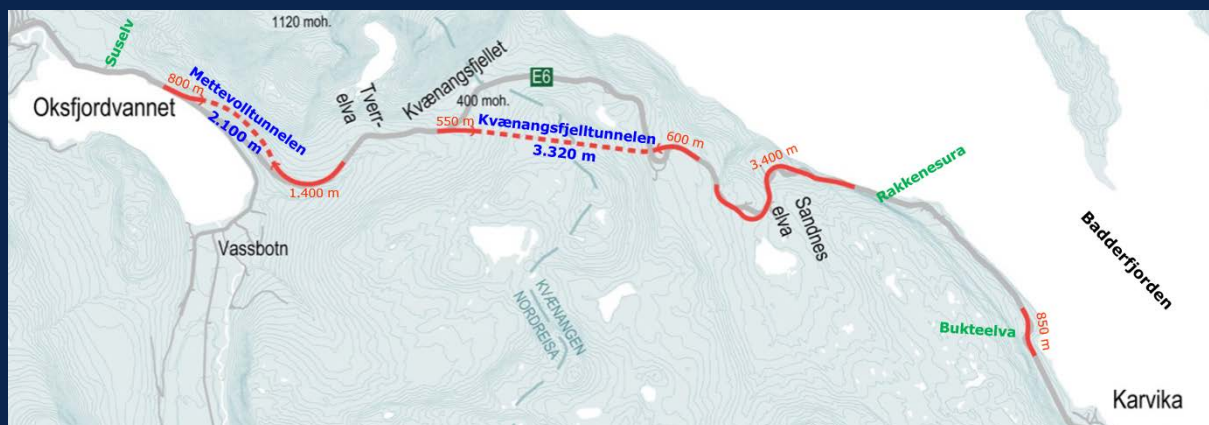


Byggherre: Ny Veier

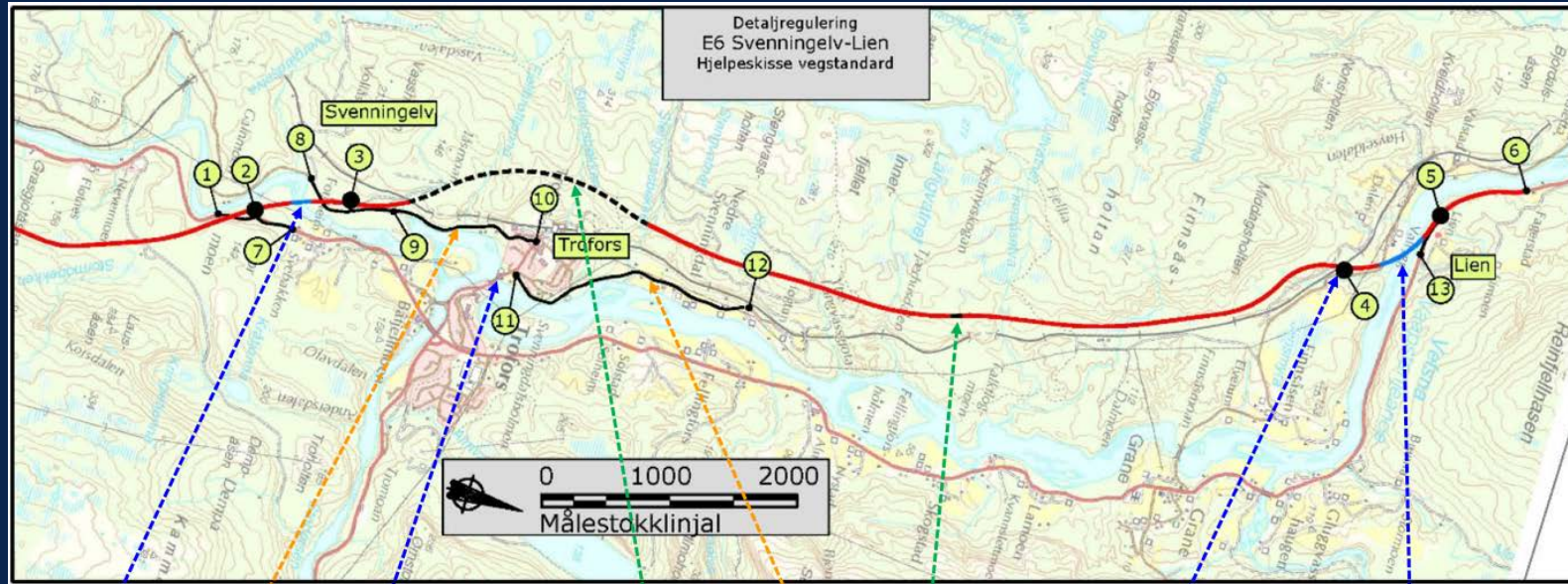
Kvænangsfjelltunnelen: 3320 m

Mettevolltunnelen: 2100 m

Byggeperiode: august 2021 – ...



E6 Svenningelv - Lien



Svenningelv bru
159 m

Vestersivegen

Troforsen G/S bru
80 m

Bergåsen tunnelen
2.021 m

Vilttunnel
Ca. 90 m

Jernbanebru

Valryggen bru
387 m

Byggherre:

SVV

Bergåsen tunnelen: 2021 m

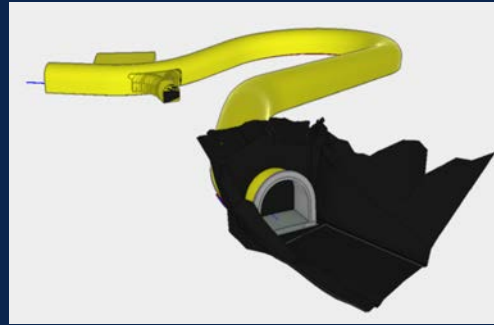
Vilttunnel: 90 m

Byggeperiode:

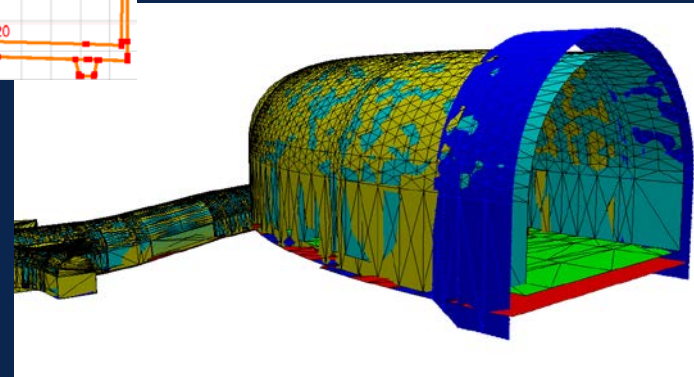
Mai 2022 – ...

Prosjekteksempel A

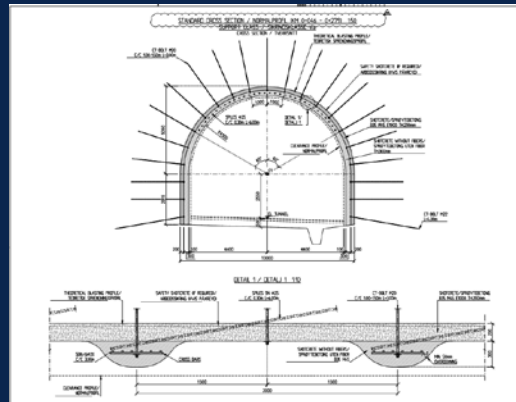
IFC



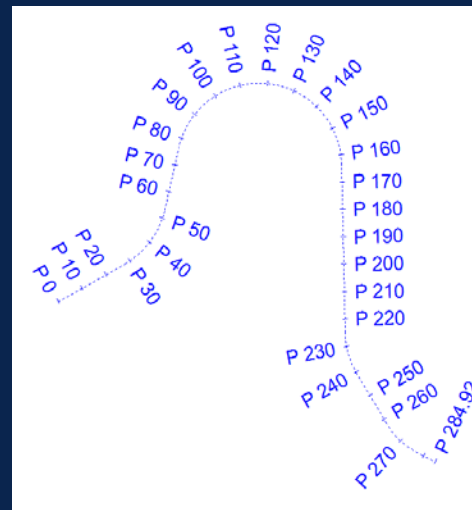
DWG



Tegninger



XML



Prosjekteksempel A

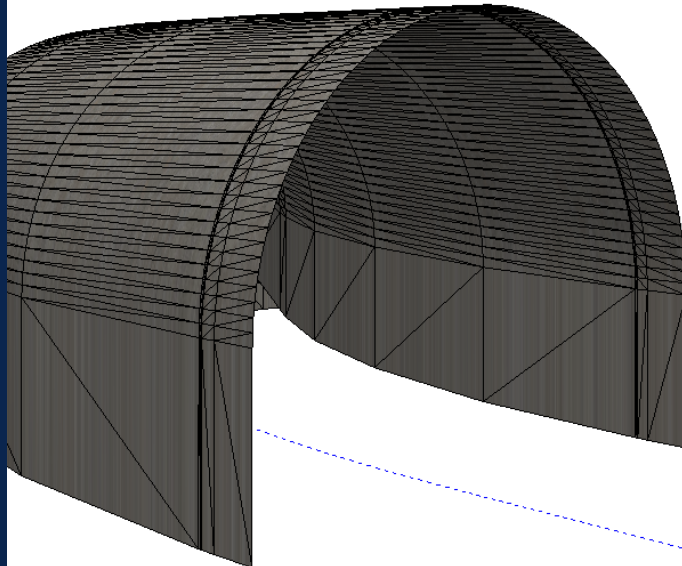


IFC



DWG

Tegninger



XML

Tunnelkonturer

Profil: 8.300 Lås profil Flate:

Felles parametre:
Referanseprofil:
Bygg trau fra lag:
Interpolasjonsmetode: Bever

Profil	Kontur	Rotasjonsflate	Rotasjon
8.300	ProfileStation8.300	-	-0.0000
45.990	ProfileStation45.990		
45.992	ProfileStation45.992		
45.996	ProfileStation45.996		
45.998	ProfileStation45.998		
45.999	ProfileStation45.999		
46.000	ProfileStation46.000		
104.999	ProfileStation104.999		
105.999	ProfileStation105.999		

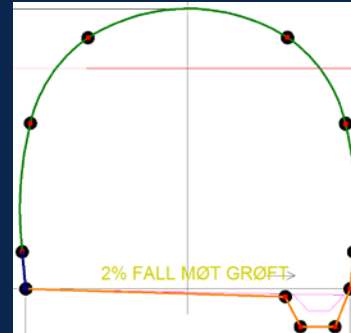
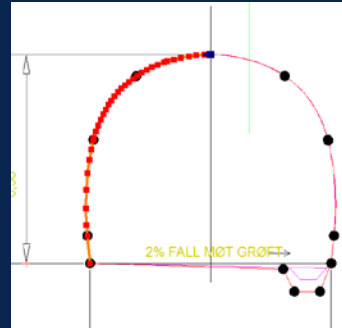
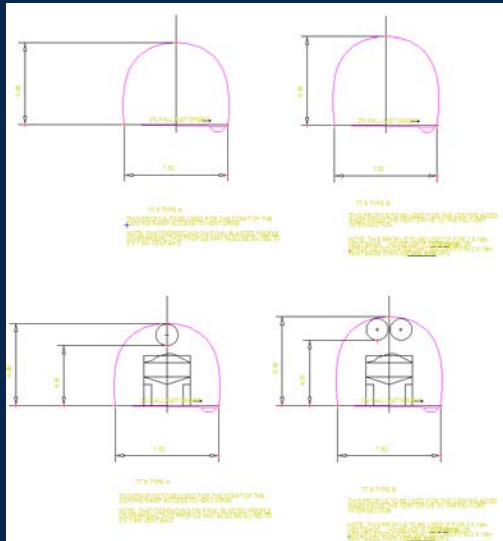
Kontur	Lag	Innstillin...
ProfileStation8.300	30: Tunnel	└┘
ProfileStation45.990	31: Tunnel spre...	└┘
ProfileStation45.992	32: Kjøreboaks	└┘
ProfileStation45.996	100: DesignBase	└┘
ProfileStation45.998		
ProfileStation45.999		
ProfileStation46.000		
ProfileStation104.999		
ProfileStation105.999		
ProfileStation106.000		
ProfileStation149.999		
ProfileStation150.999		

Flate	Avstand	Høyde	Radius	Type
1.01	-4.600	-1.412	0.000	Ingen
1.02	-4.600	2.550	0.000	Ingen
1.03	0.000	7.150	4.600	Ingen
1.04	4.600	2.550	4.600	Ingen
1.05	4.600	-1.688	0.000	Ingen

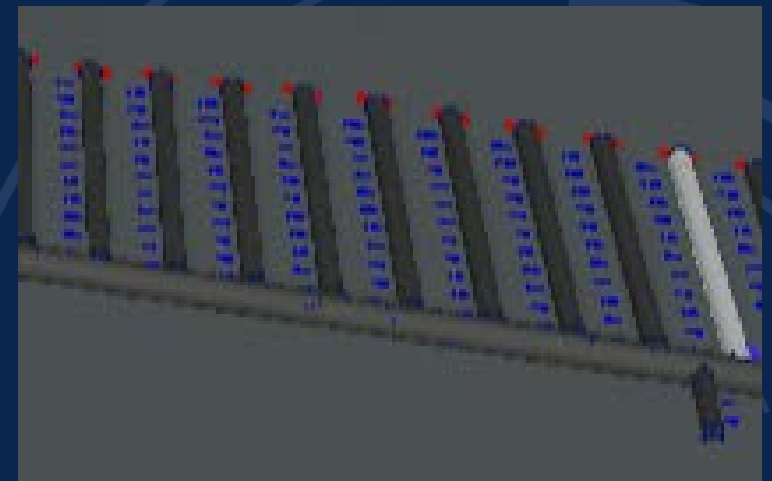
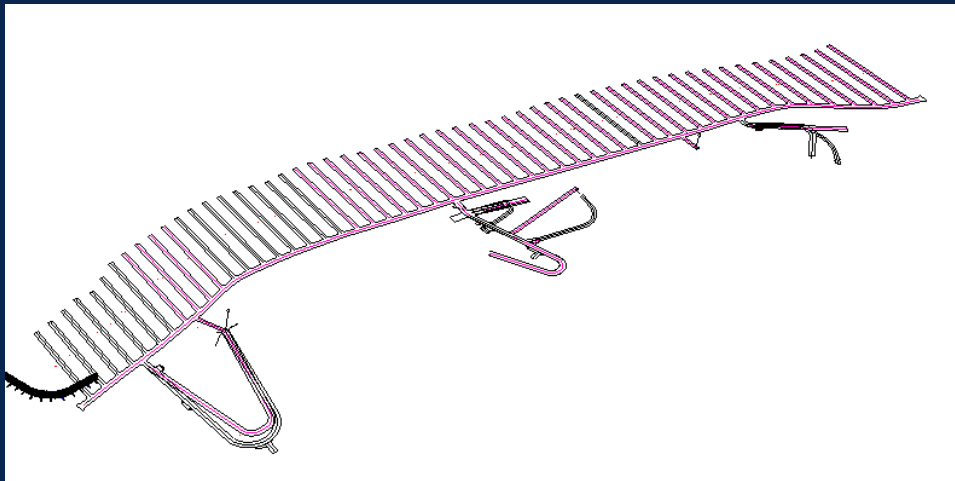
Slett overflødige... OK Avbryt Hjelp

Prosjekteksempel B

DWG

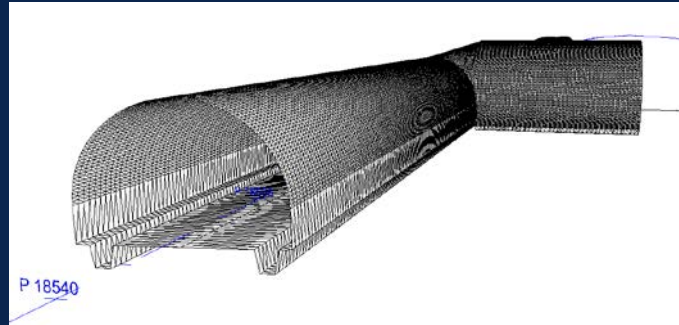


DXF

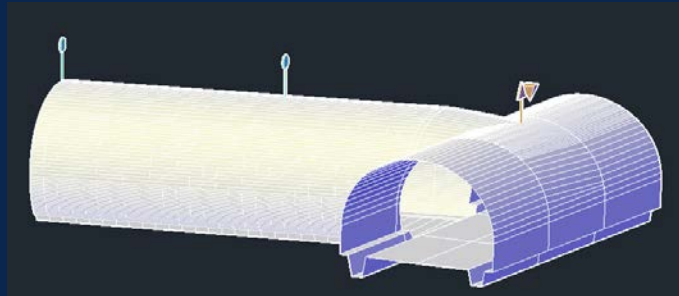


Prosjekteksempel C

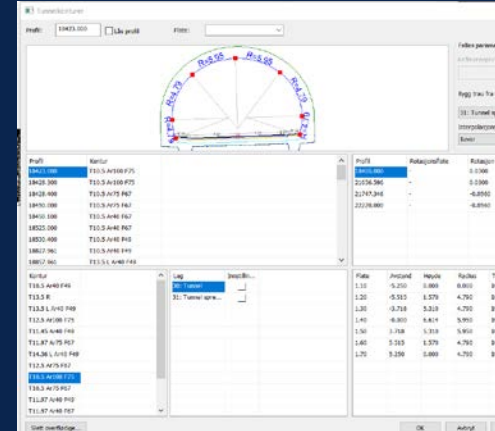
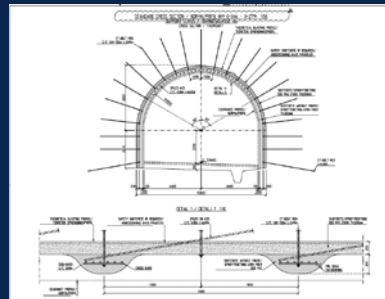
SFI



DWG



Tegninger

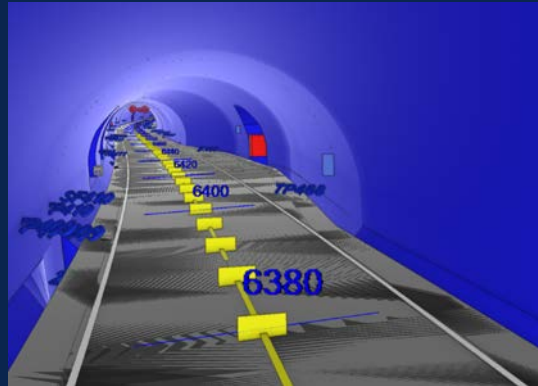


Prøft	Karakter	Prøft	Antagelse	Antagelse
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18426-000	T10.5-A-100-P75	18426-000	22104.290	0.0000
18427-000	T10.5-A-100-P75	18427-000	22104.290	0.0000
18428-000	T10.5-A-100-P75	18428-000	22104.290	0.0000
18429-000	T10.5-A-100-P75	18429-000	22104.290	0.0000
18430-000	T10.5-A-100-P75	18430-000	22104.290	0.0000
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18436-000	T10.5-A-100-P75	18436-000	22104.290	0.0000
18437-000	T10.5-A-100-P75	18437-000	22104.290	0.0000
18438-000	T10.5-A-100-P75	18438-000	22104.290	0.0000
18439-000	T10.5-A-100-P75	18439-000	22104.290	0.0000
18440-000	T10.5-A-100-P75	18440-000	22104.290	0.0000
18441-000	T10.5-A-100-P75	18441-000	22104.290	0.0000
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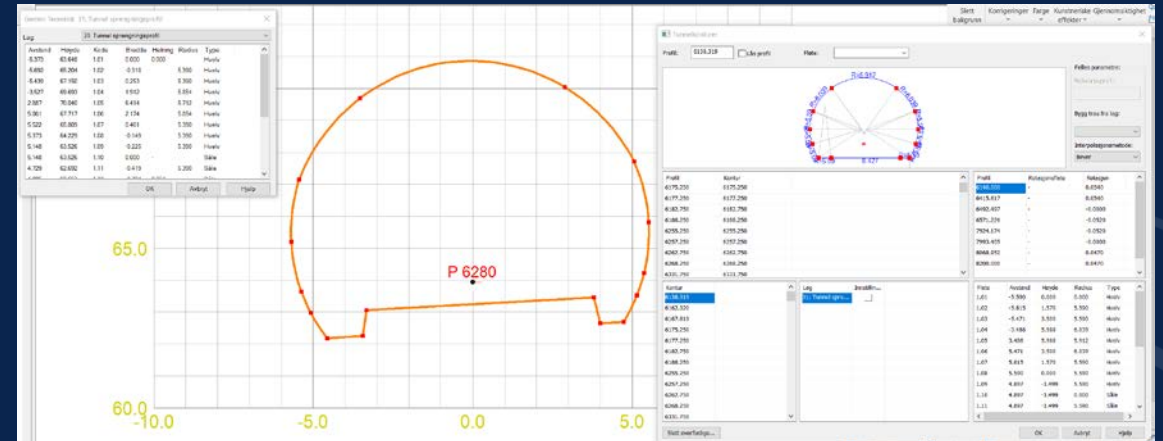
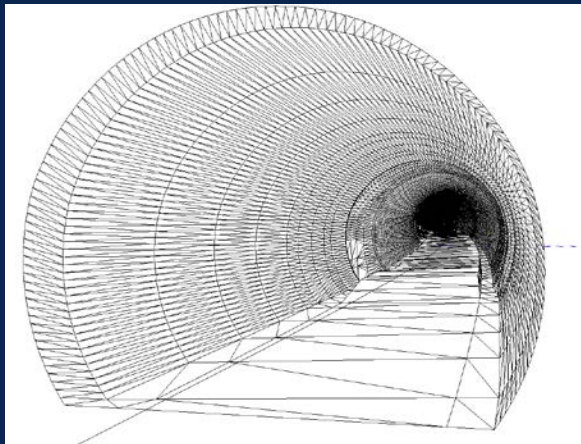
Prosjekt eksempel D

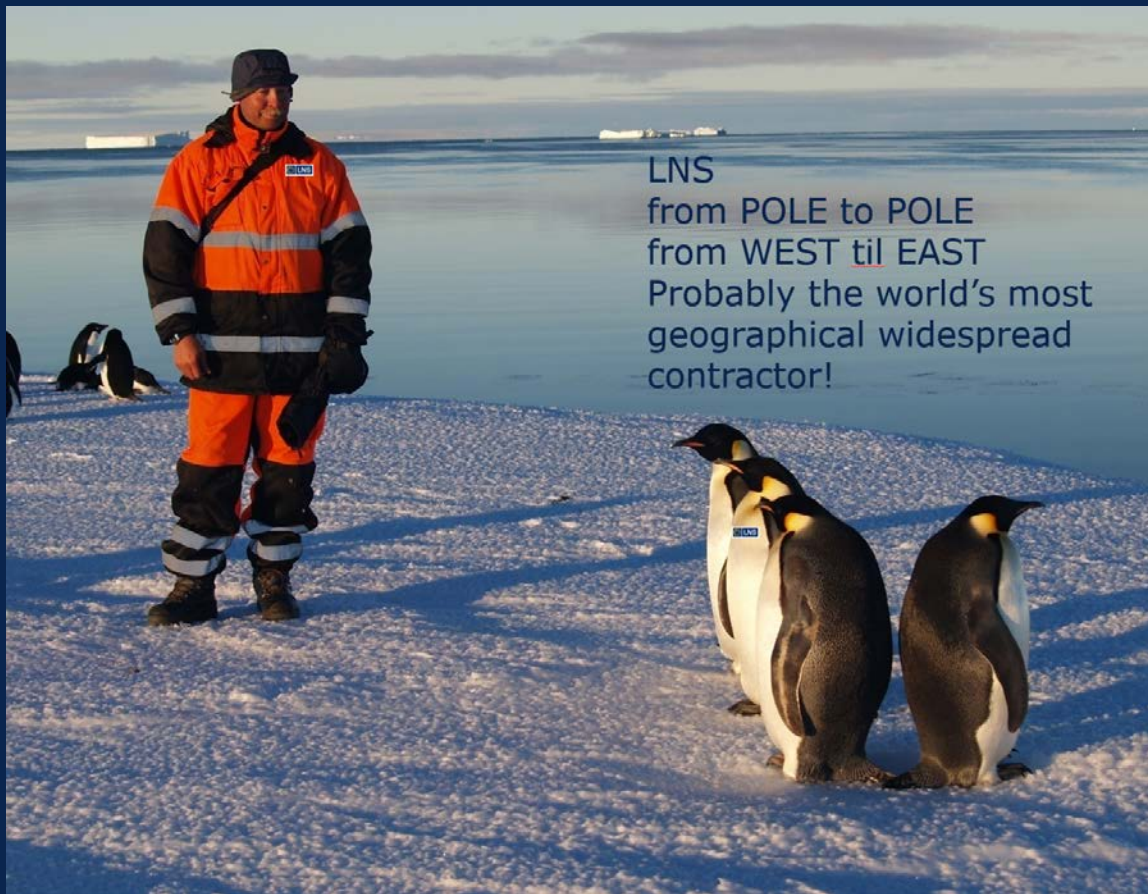


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from POLE to POLE
from WEST til EAST
Probably the world's most
geographical widespread
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Vi er på riktig vei men ikke i mål