

Ultra Broadband Challenges and opportunities

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How we think about the ultra-broadband challenge

Which demand, potentially differed by the crisis ?

New models to finance new services needed ?

Fiber investment = support new industry structure

Authorities might have a role to play

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3G like demand, potentially differed by the crisis

Illustration

Some services can be foreseen ...

... but real need and willingness to pay unclear

- **TV:** 2 bandwidth drivers
 - Resolution (4K, 8K)
 - # screens per household

- Willingness to pay for more resolution?
- Willingness to invest in new screens ?

- **Workplace virtualization**
 - Residential
 - Corporate

- Difficulty in mobility for professionals (Shannon, spectrum)
- Unclear for residential (gamers)

- **Virtual presence**
 - Residential
 - Corporate

- Same pitfalls as with video conferencing?
- Willingness to pay for residential ?

Source: Swisscom

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New models to finance new services needed ?

Today's silos	Industry EBITDA index	Pressure points
<ul style="list-style-type: none"> • Operators <ul style="list-style-type: none"> – Revenue from access 	100	<ul style="list-style-type: none"> • Financing capabilities decreasing due to regulation • Can be more efficient
<ul style="list-style-type: none"> • Media <ul style="list-style-type: none"> – Revenue from advertising 	20	<ul style="list-style-type: none"> • Production costs increasing • Above the line ad spending decreasing due to audience fragmentation
<ul style="list-style-type: none"> • OTT <ul style="list-style-type: none"> – Revenue from subscribers or advertisers 	2	<ul style="list-style-type: none"> • Ad revenue from mobile • Revenue/profit pool still small

Status quo

OR

New distribution of value

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FTTH investment = support new industry structure

We have to be proactive since we bear the investment risk

For customers:

- Competition and free choice between several providers and technologies
- One time renewal of in-house installation

For Switzerland:

- Faster and cheaper construction of fiber
- No redundancy in construction of fiber

For the network provider

- Enable infrastructure-based competition in access
- Lower building costs
- Better return of investment

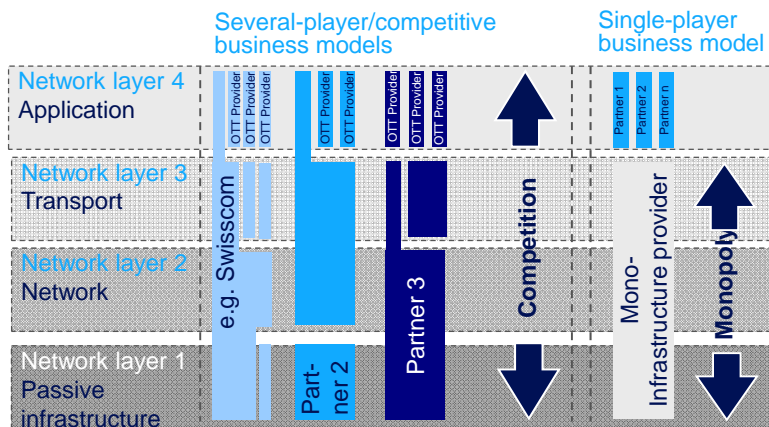
Source: Swisscom



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Der Weg zum 100%igen Glasfasernetz in der Schweiz

Vision promoted by Swisscom



Source: Swisscom

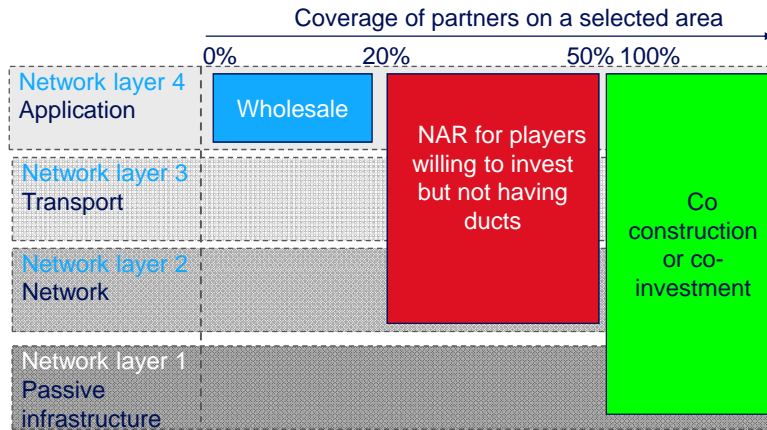


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Der Weg zum 100%igen Glasfasernetz in der Schweiz

Various cooperation options could be envisaged

Theoretical options – symmetrical across players



NAR = Network Access right
Source: Swisscom

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Authorities shall have a role to play

even in an ex-post regime

- **Tune copper regulation** to
 - enable competitive dynamics on copper infrastructure
 - without hampering financing capabilities for upcoming investment
- **Geographical perequation** of fiber investment if not agreed by the players spontaneously
- Potentially revisit **equity holding** to enable media activities
- **Keynesian type of activities** to foster demand

Source: Swisscom

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