

Is a leased line really unknown?

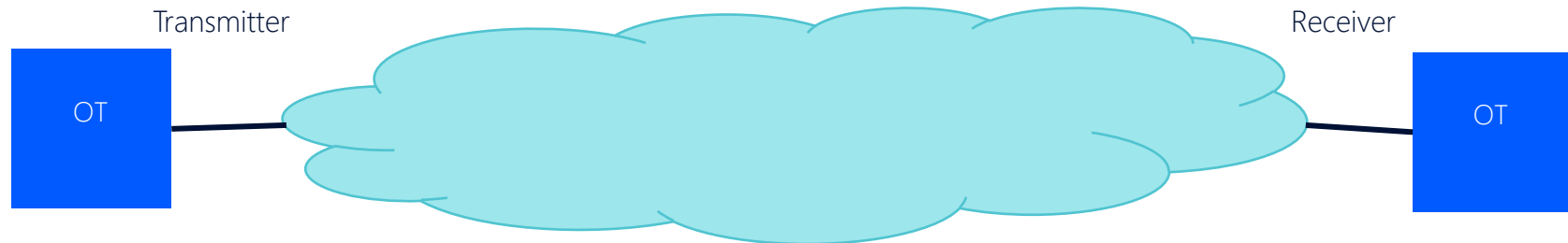
Discovering a DWDM network
with Tomography

A. Bellato



Leased lines and MOFN

Why?



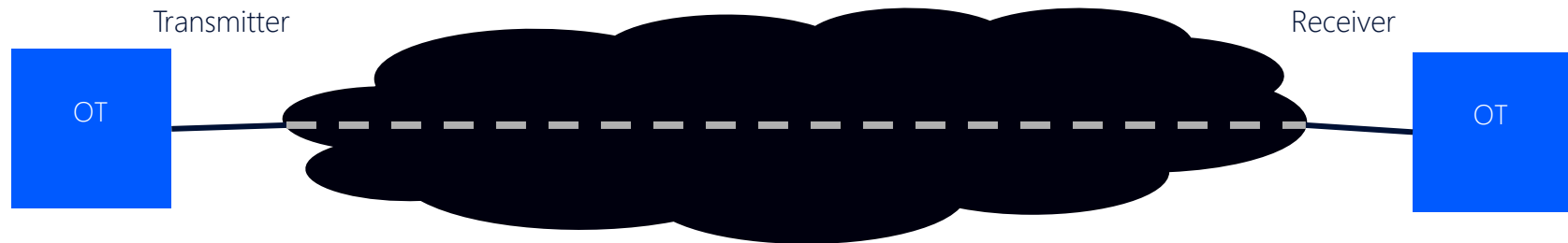
Use of 3rd party line infrastructures

Pros

- Optimize resources on transmission
- Less costs
 - Infrastructure
 - Field maintenance

Leased lines and MOFN

Is everything OK?



Use of 3rd party line infrastructures

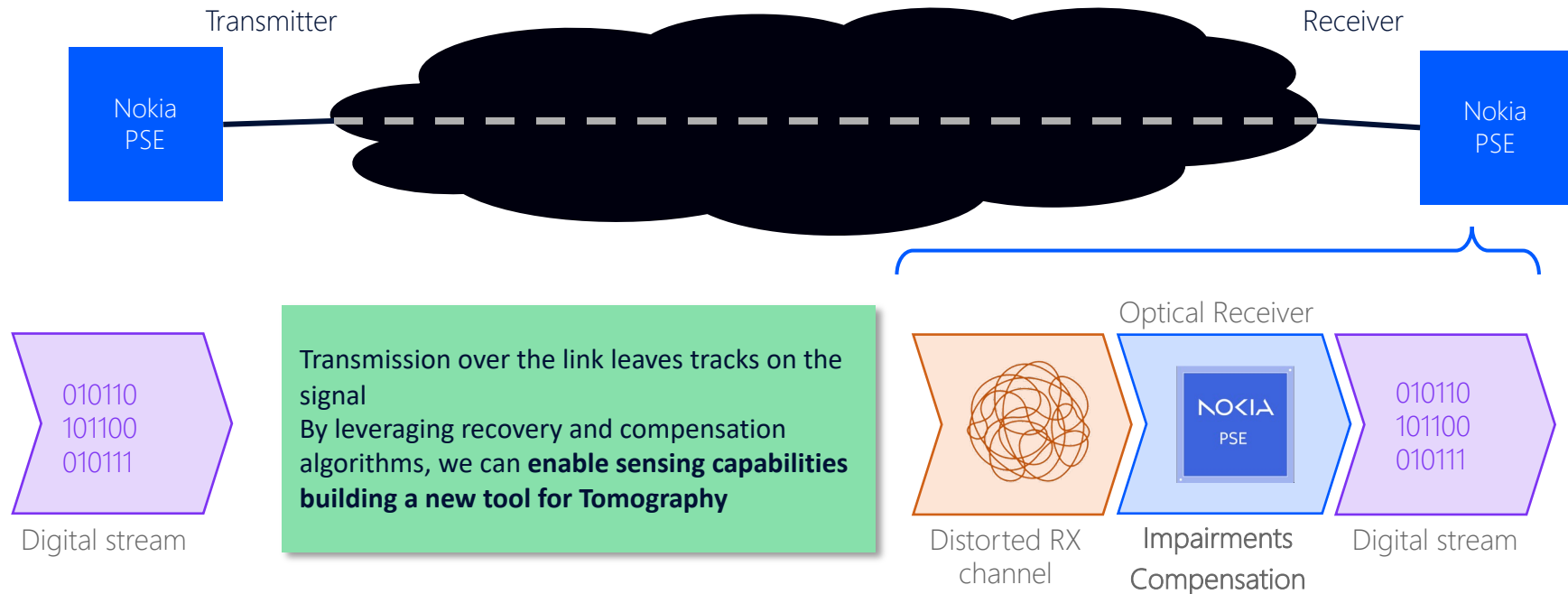
Cons

- The line system is a 'black box'
- Digital services are connected via a logical optical pipe
- Only degradation monitoring at end points

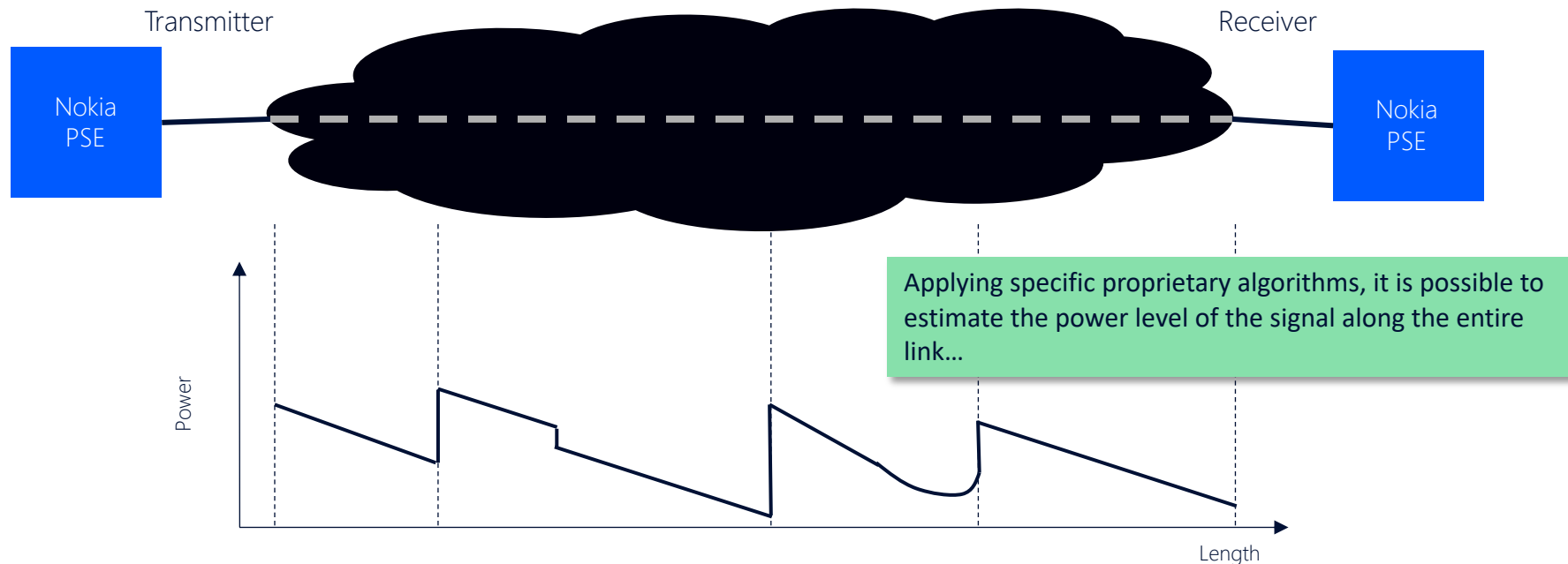
Is there anything we can do to enhance this?

Learning to see through the eyes of the transponder

Tomography

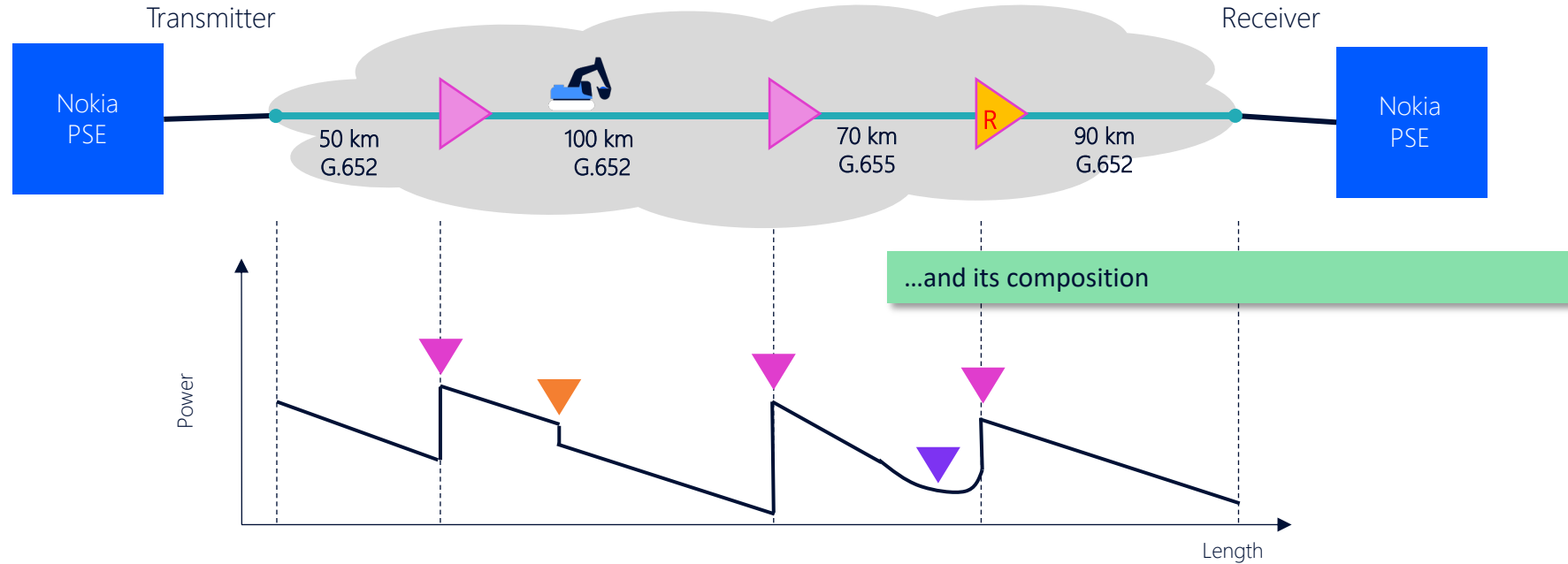


Let's know better a leased line



Let's know better a leased line

Not a "black box" any longer



Conclusions

Is a leased line really Unknown?

Not anymore using Tomography!

we can learn a lot from transponder data

- ✓ Fiber types: 100% match
- ✓ Amplifier types: 100% match
- ✓ Span length: +/- 3% accuracy

Monitor the power profile over time identifying differentials and trends due to potential degradation or intrusion attempts

Check and tune the E2E network parameters before enabling new services.

More accurate network planning

Help troubleshooting issues like degradation of the channel quality or latency due to topology change in the leased network domain.

NOKIA