

How do the buses and the infrastructure perform in HyTransit?

Klaus Stolzenburg



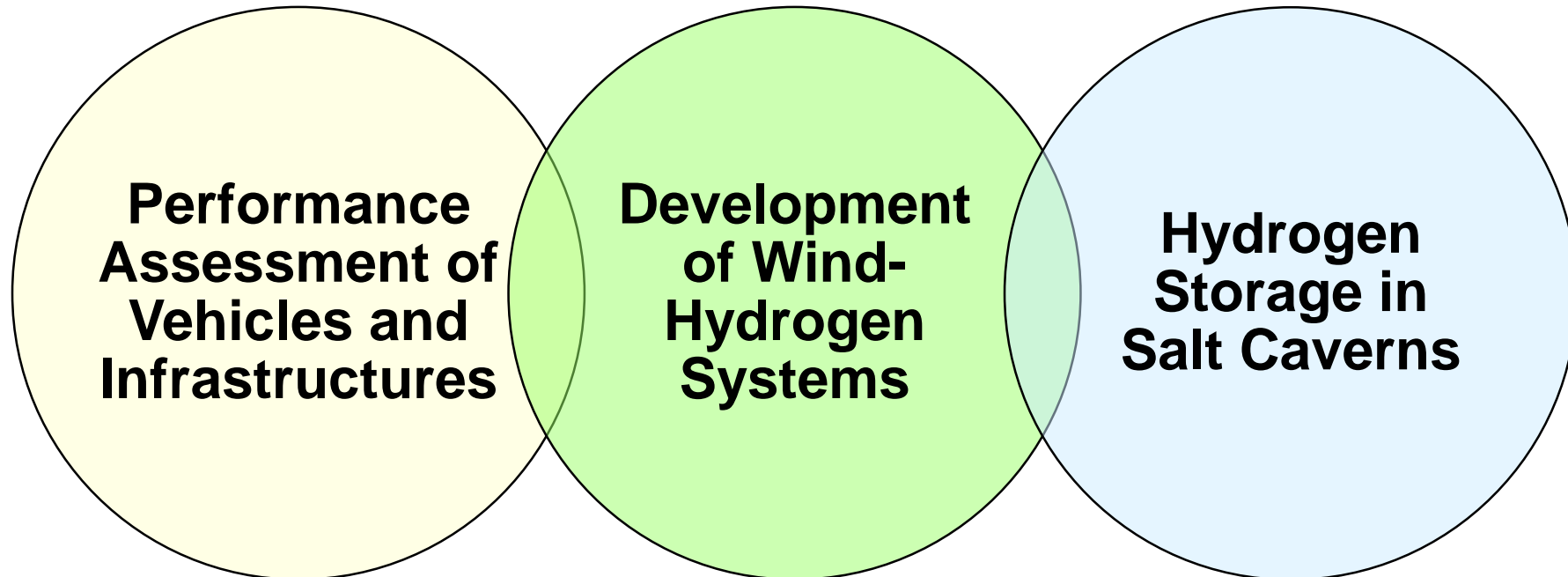
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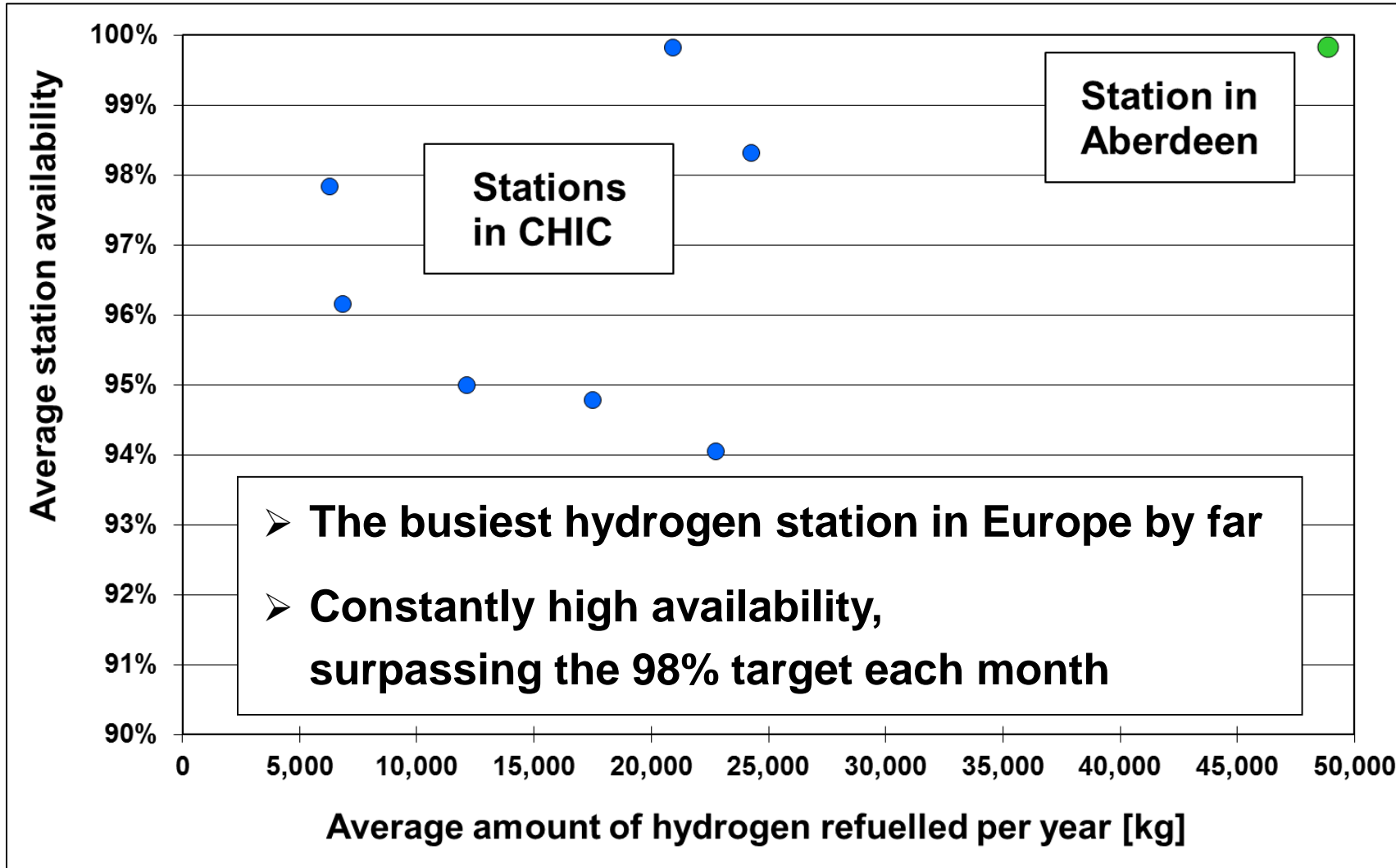
- Engineering and Consulting since 1985
- Hydrogen-related activities include:



6 Buses and 1 Station in HyTransit



Hydrogen Refuelling Station – Highlights / 1



Data up to end of 2016

Hydrogen Refuelling Station – Highlights / 2

By end of 2016, after about half the operating phase:

- **Only one event „no fuel“**
- **Component outages:**
Mainly hydrogen compressors, as in other projects
→ Contingency important
(here: Two compressor units in parallel)
- **Average amount per fill about 27 kg,**
more than in other projects
- **Speed of dispensing: 2.3 kg/min**
→ Typical time to fill about 12 min

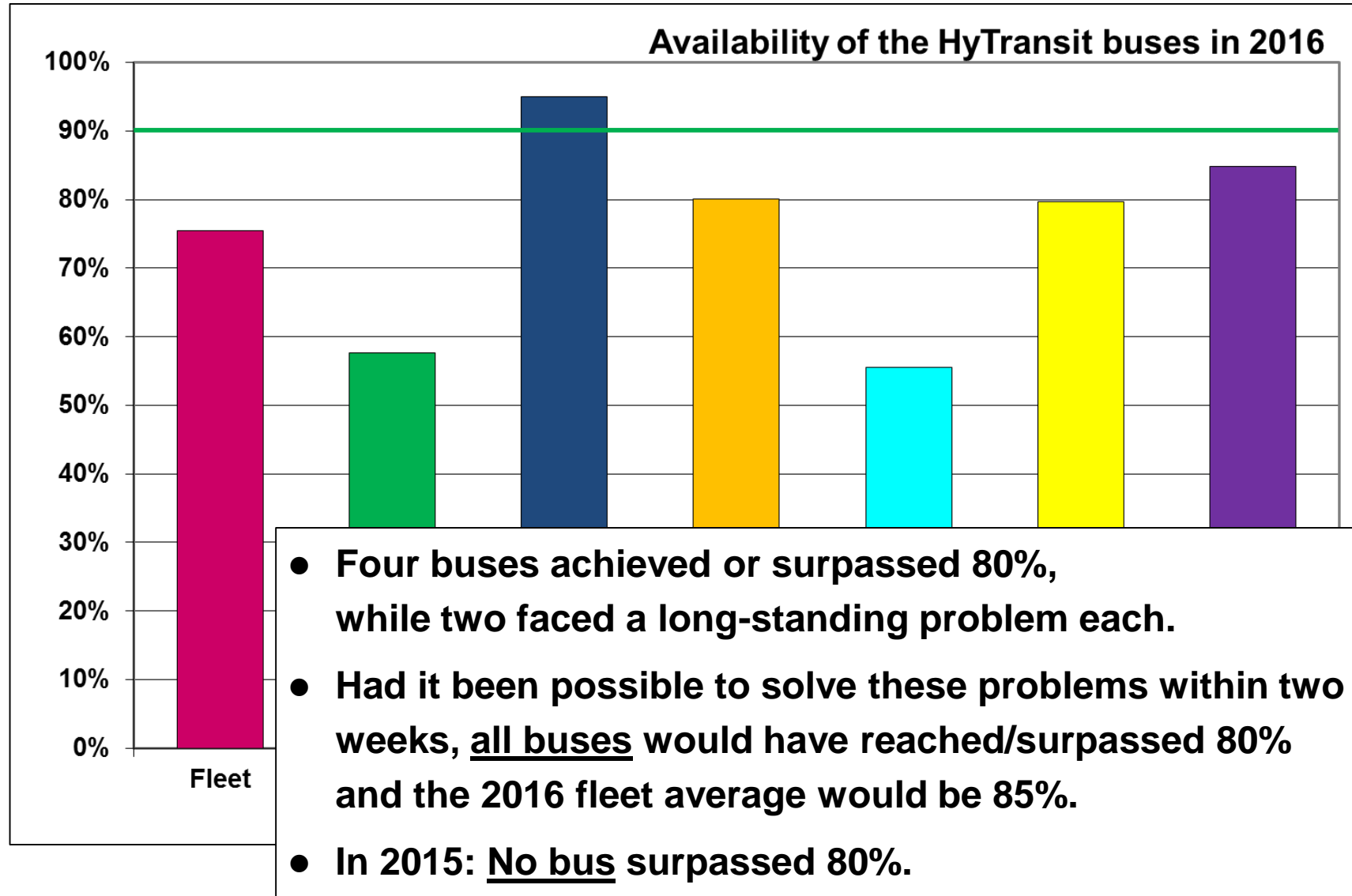
Fuel Cell Buses – Highlights / 1

By end of 2016:

- **More than 500,000 km travelled**
 - **Almost 500,000 passengers**
 - **More than 160,000 litres of diesel replaced**

 - **Availability target: 90%**
 - **Availability across the fuel cell bus fleet:**
 - **71% in 2015**
 - **75% in 2016**
- Has there been little progress in terms of availability?**

Fuel Cell Buses – Highlights / 2



HyTransit Summary

- **Outstanding performance of the busiest hydrogen refuelling station to-day**
- **Progress regarding bus availability in 2016, however two buses with long-lasting problems**
 - **Positive trend but need to solve problems quicker**
- **Overall:**
No fundamental problems but room for improvement.

Thank you for your attention!

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