

CBTC in Amsterdam a challenge to be discussed

29th of September 2021

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Agenda

1) Introduction
2) Purpose of this meeting
3) MeT's view and required info today
4) Amsterdam is important
5) A perfect reference but also a major challenge
6) Where we are today (most important)
7) Approach and measures to secure performance as required (most important)

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(1) Introduction



Egbert de Vries
Wethouder
Gemeente Amsterdam

Alstom

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(2) Purpose of this meeting

- *Due to global holds MeT requested to discuss and inform them on the situation*
- *Views and explanation*

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(3) MeT request

Gemeente Amsterdam

MeT to explain views on the situation and required info today

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(4) Interest from Alstom in Amsterdam

Gemeente Amsterdam

Alstom's view and explanations:

- Amsterdam is important as it provides a reference for the complete package
  RS+CBTC+Maintenance all from AT on the North South Line
  Revamping + greenfield & full CBTC scope incl ATS

- Cooperation between AT and MET/GVB (first time right principle, joint progress report), has proven to be fruitful and will serve for references in the future

- Not just words referring to visitors from Alstoms customers to Amsterdam
  Metro Moscou, audience from different customers from India, visitors from South Korea, visit from IRSE, teams meeting with Frankfurt and often used to prequalify

- Amsterdam is one of the most complex systems ww we have seen. *(Market share around 25% of CBTC market so we have seen quite some projects, 100+) As such it also poses a challenge but at the same time a proper reference.*

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(5) A perfect reference but also a major challenge

Gemeente Amsterdam

Amsterdam offered the opportunity to bring the perfect reference but at the same challenges to overcome.

Amsterdam is complex because:

- We are executing a project in brownfield
- We have to deal with operation called “bundled lines” (miniature railway system)
- To prepare it for driverless (GOA4)
- Flexibility to drive with coupled vehicles
- Equip a fleet of 30 year old metro’s with CBTC technology
- Unique combination of aspects

Alstom has a market share of appr 25% and Amsterdam is seen as one of the most complex projects done so far.

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(6) Where we are today

Gemeente Amsterdam

- We are well under way with the staged commissioning (GI)
- After 6 months of passenger operation, most difficult problems have been solved
- One last outstanding issue important for GoLive is addressed by our top experts (missing labels)
- First trial for continued CBTC operation for a longer period (2 weeks) has stressed the system and the organisation resulting in several findings that need further improvements to limit impact on operations
- Project team is adapting for GoLive, forming one team with maintenance and working in close collaboration with all parties within MET/GVB
- Stability and robustness of the system and overall performance shall be accelerated.

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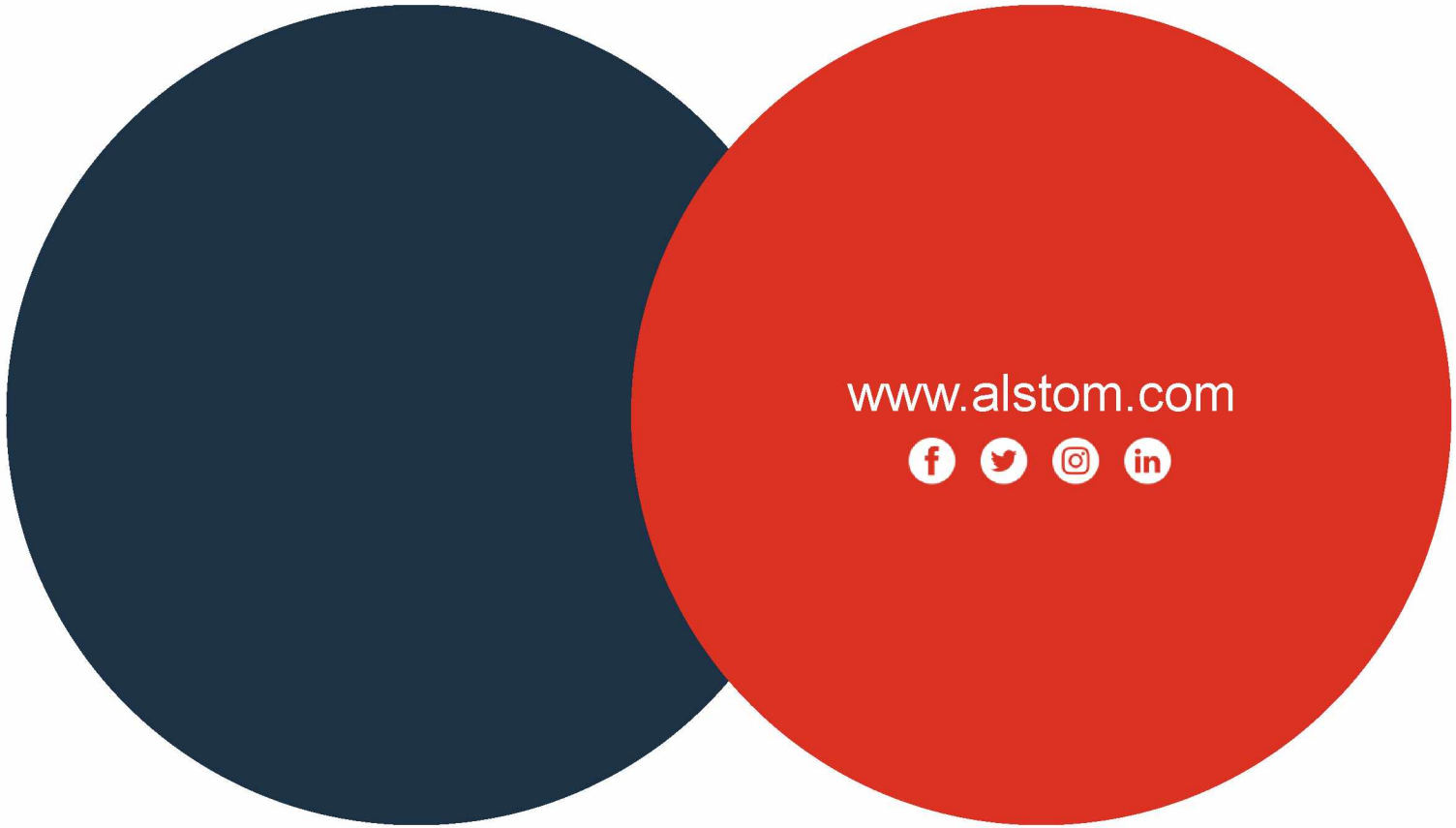
(7) Approach and measures to secure performance as required

- Step 0: analysis of problems observed for stability
  In depth analysis of the events of last week, discuss the lessons learned with MET/GVB

- Step 1: recover the CBTC make it ready for operation
- Step 2: increase robustness of the ATS system (with immediate effect)
  Stability of the system shall be managed to limit the impact of system reboot to keep as much as possible the operational context.
  Increase local presence with CBTC experts to secure a successful GoLive
  Setup a fast response team to react immediately on extra ordinary events and support MET/GVB in decision process as well as support to the maintenance organisation to take the right actions
- Step 3: increase the robustness of the ATS before GoLive
  Process findings of the staged commissioning minimizing impact for day to day operation
  We are together with MET/GVB in a steep leaning curve to address all problems in Amsterdam and secure operational readiness

- Step 4: Identify the weakness in the Amsterdam CBTC system based on GI experience

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