Stabilisation Technology

Stabilisation in general

- **In Situ Stabilisation Technologies**
  - **Mass Stabilisation**, first mass stabilised structure in the beginning of 1990
  - Column Stabilisation, most common stabilisation technique, used since 1970`s
- **Ex Situ Stabilisation Technologies**
  - **Process Stabilisation**, first case in 2008
  - **Windrow Stabilisation**, first case at the end of 1990

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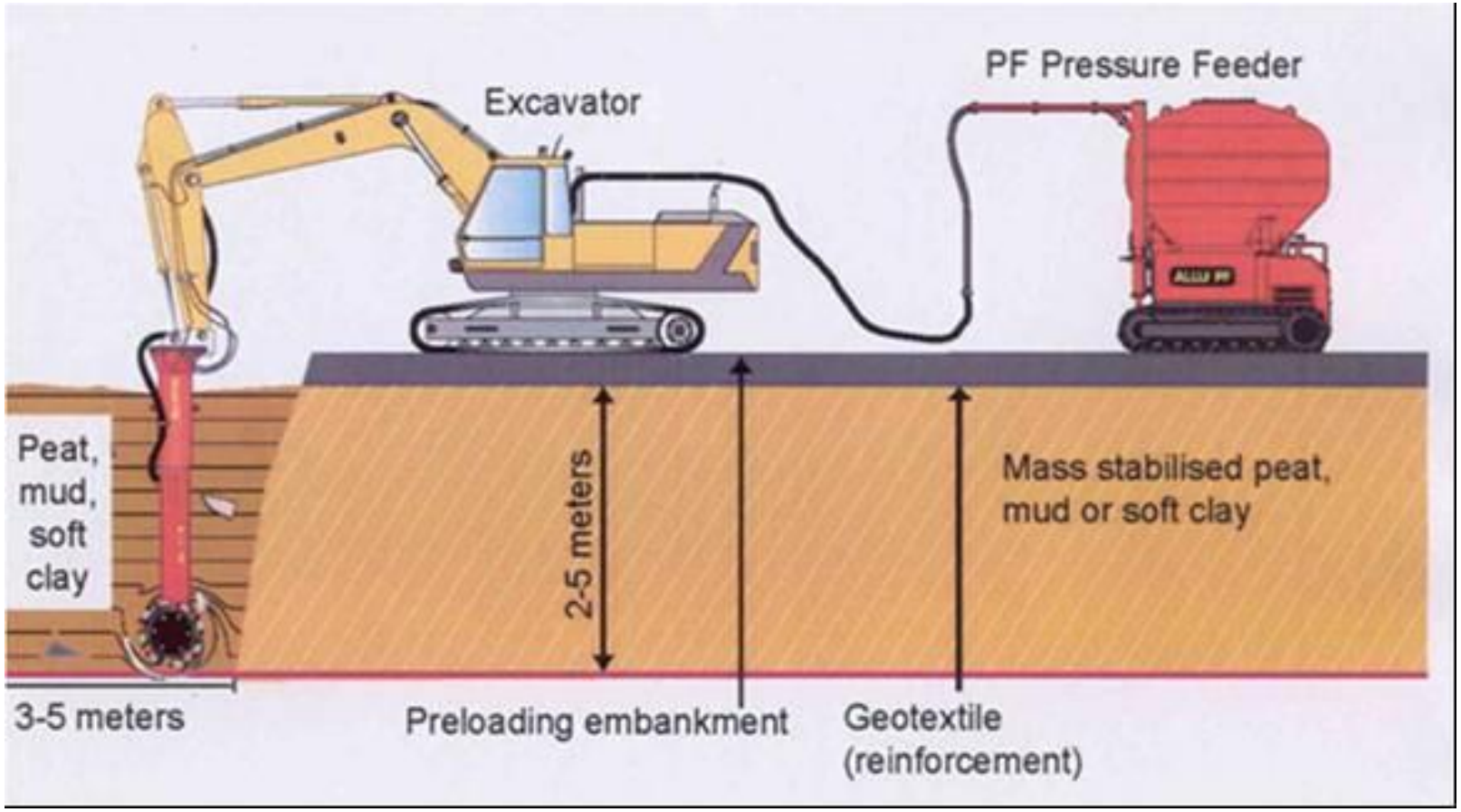
In Situ Stabilisation techniques

MASS STABILISATION
- Stabilisation depth usually 2…6 m

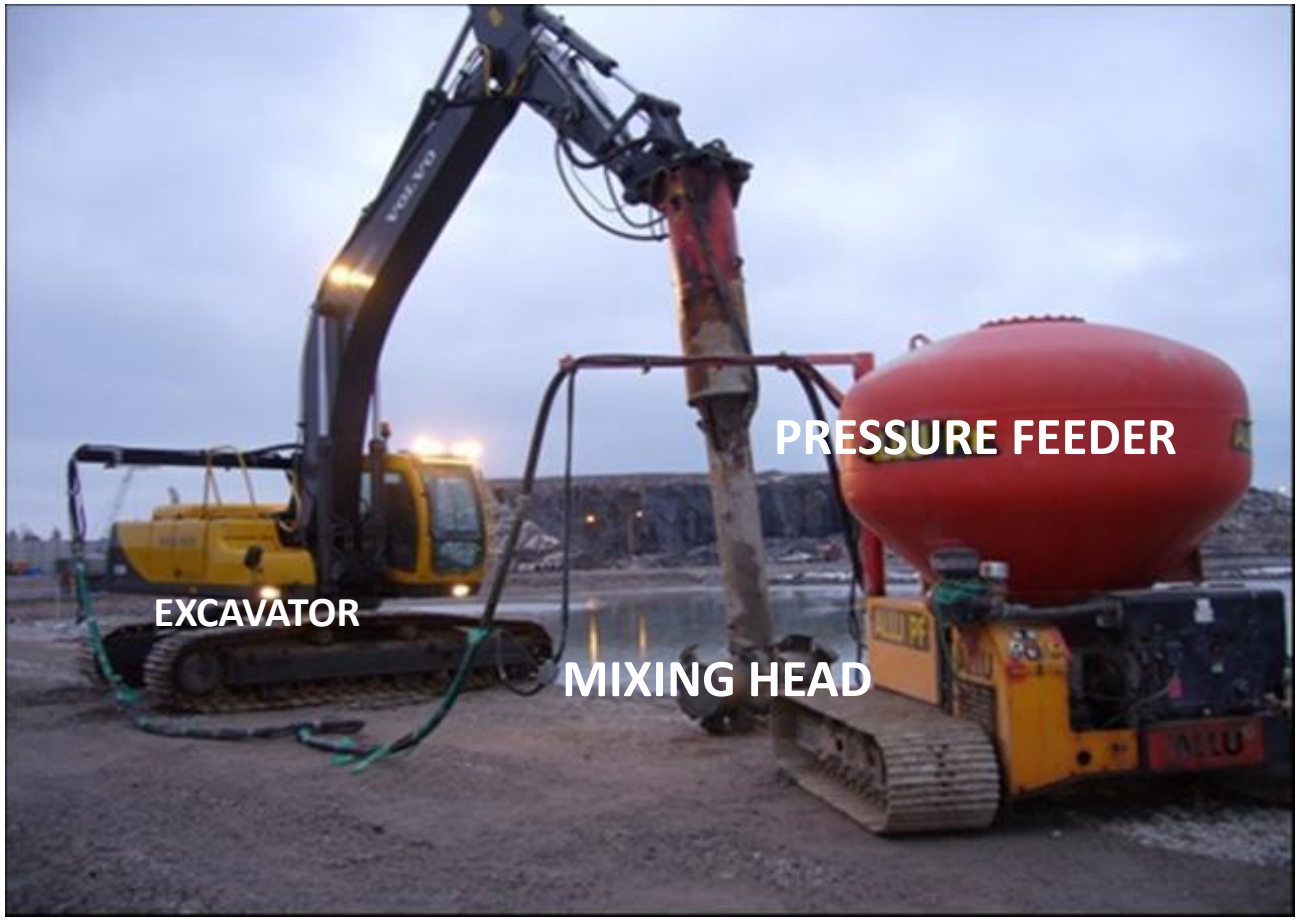
COLUMN STABILISATION
- Stabilisation depth usually > 6 m

These techniques are used many times together….!!!!

Mass stabilisation princible



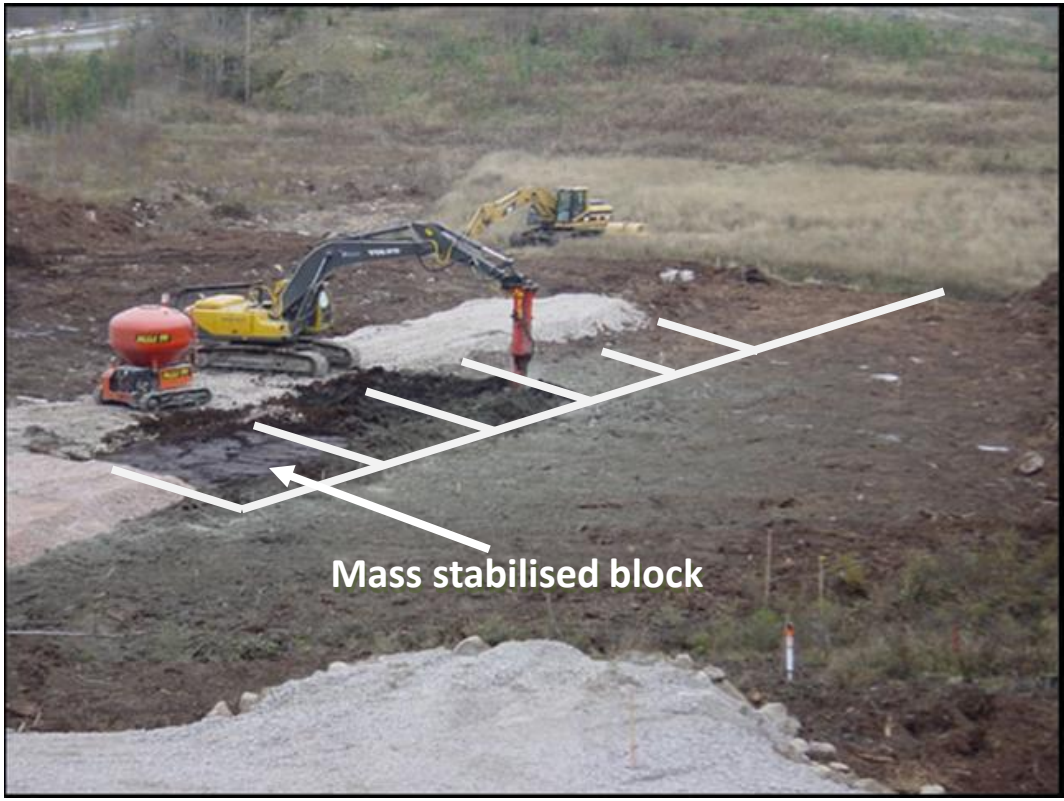
Typical mass stabilisation machinery



Typical mass stabilisation project

- Clearing surface ground
- Removing barriers and levelling bumbs and ditches
- Marking the stabilisation blocks
- Measuring ground level
- Stabilisation work
- Compaction using geotextile and embankment
- Quality control soundings
- Reporting

Railway lines



Industrial areas

Before

After

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Roads

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Parking spaces

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Landfills

Pipelines

Dredging and mass stabilisation

- Helsinki, Vuosaari harbor TBT-stabilisation

- Area ca. 11 ha
- Depth max. 5 m
- Volume ca.450.000 m3

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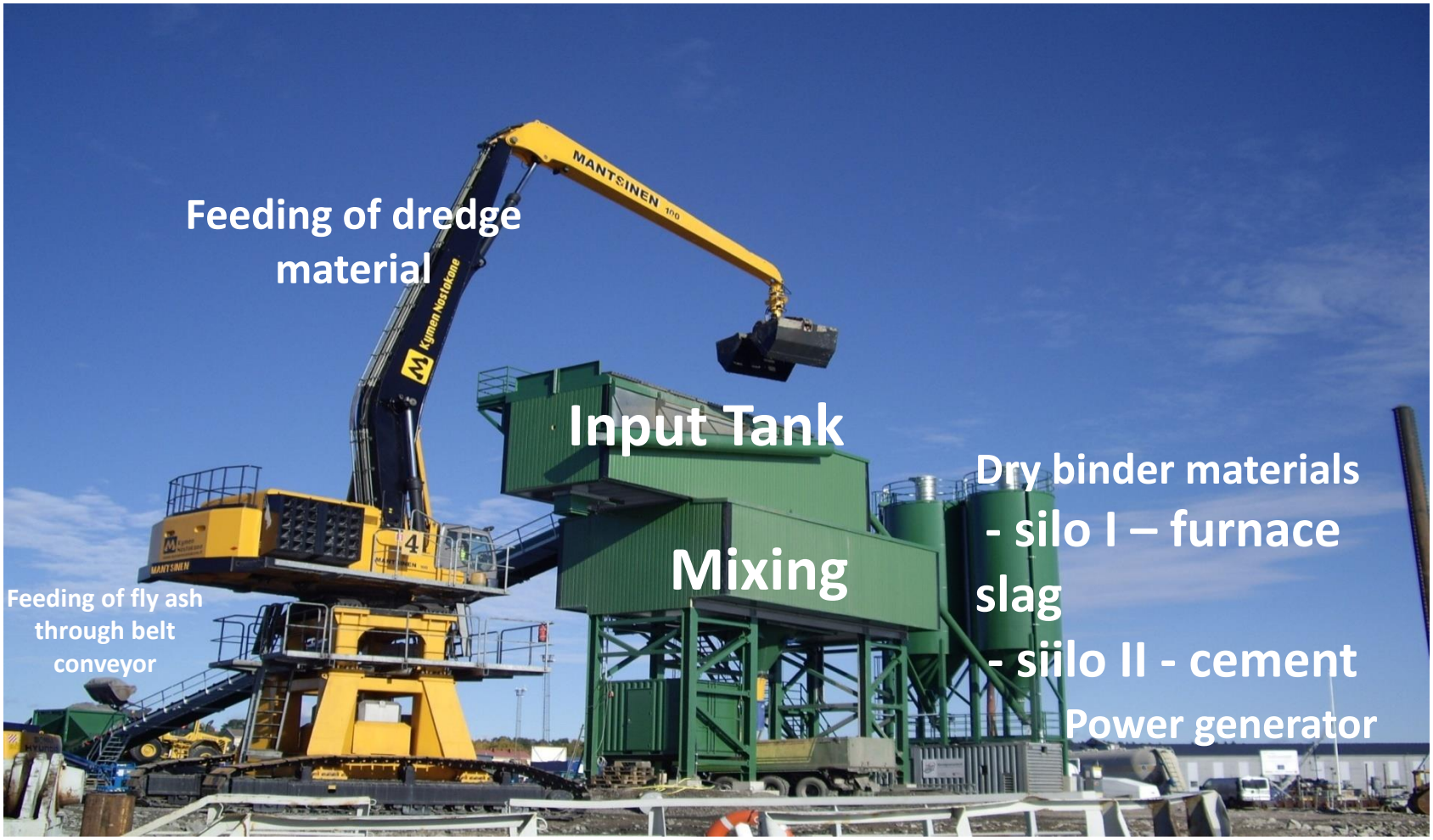
Ex Situ Stabilisation techniques

WINDROW STABILISATION - Excavated peat and clay stabilisation, also bentonite mixing and seasand stabilisation

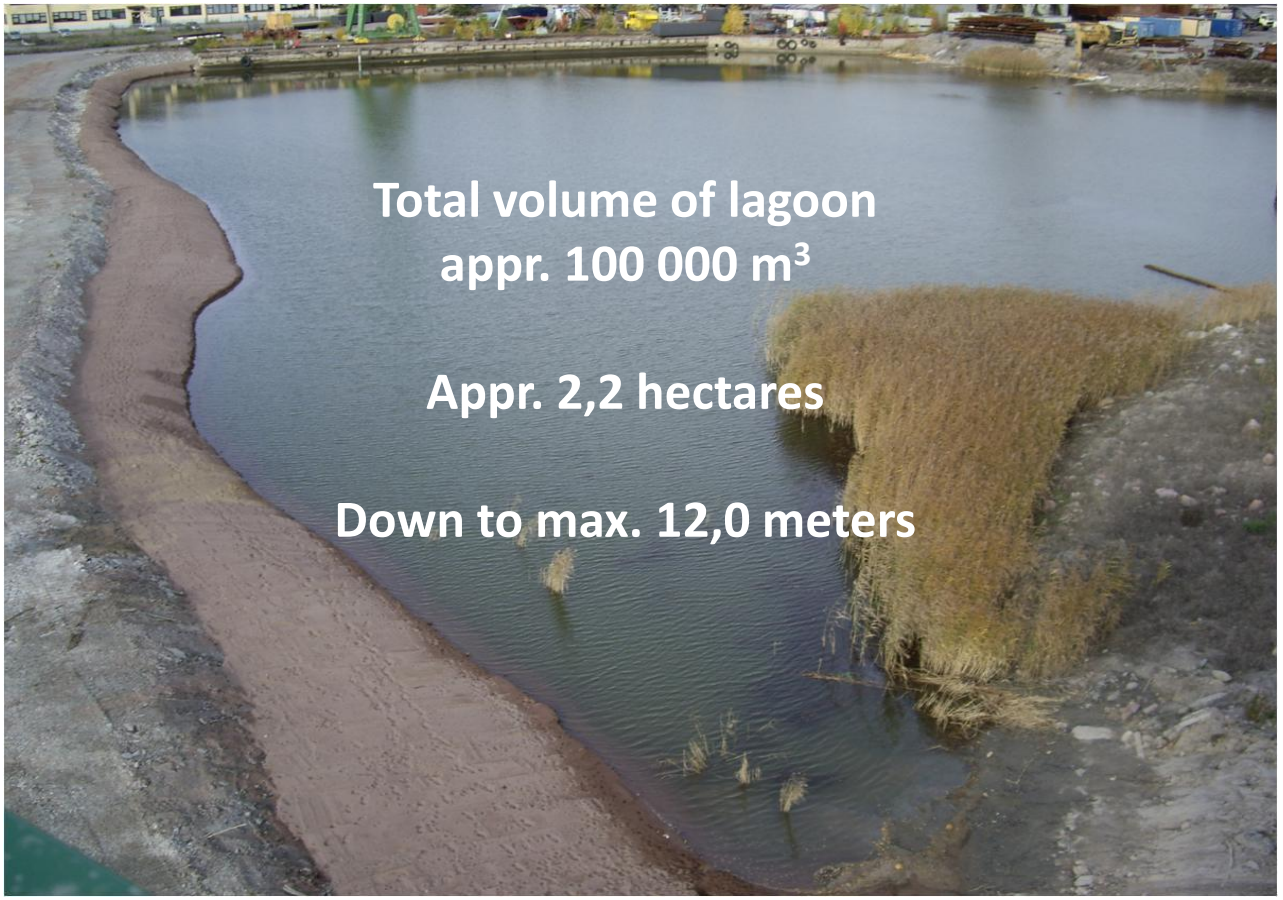
PROCESS STABILISATION - Mainly for contaminated dredge sediment treatment

Barge stabilisation

Process Stabilisation inTurku Finland



End placement lagoon in Turku October 2008



End placement lagoon ready to serve as port structure !!!!!!!!

Turku Pansio at present time

Contaminated sediments used beneficially in new cargo storage area…

To conclude

- Stabilisation is a solution for many soft soil problem, not ONLY solution but gives new tools to move on…
- Possibility to treat contaminated matetials (encapsulation)
- Well planned project – ”half done project”. Every project is unique!
- Plenty of successful cases!
- Not ”rocket science” – common sense is needed

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THANK YOU!

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