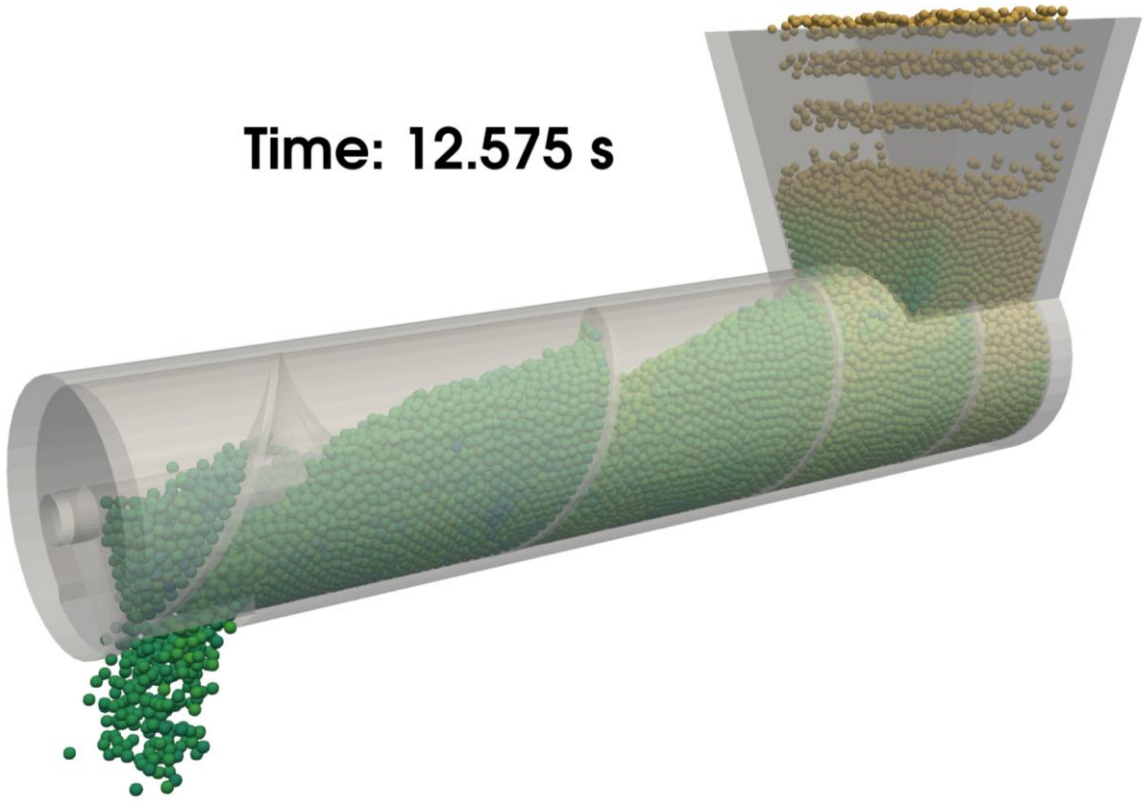
Simulating a screw conveyor

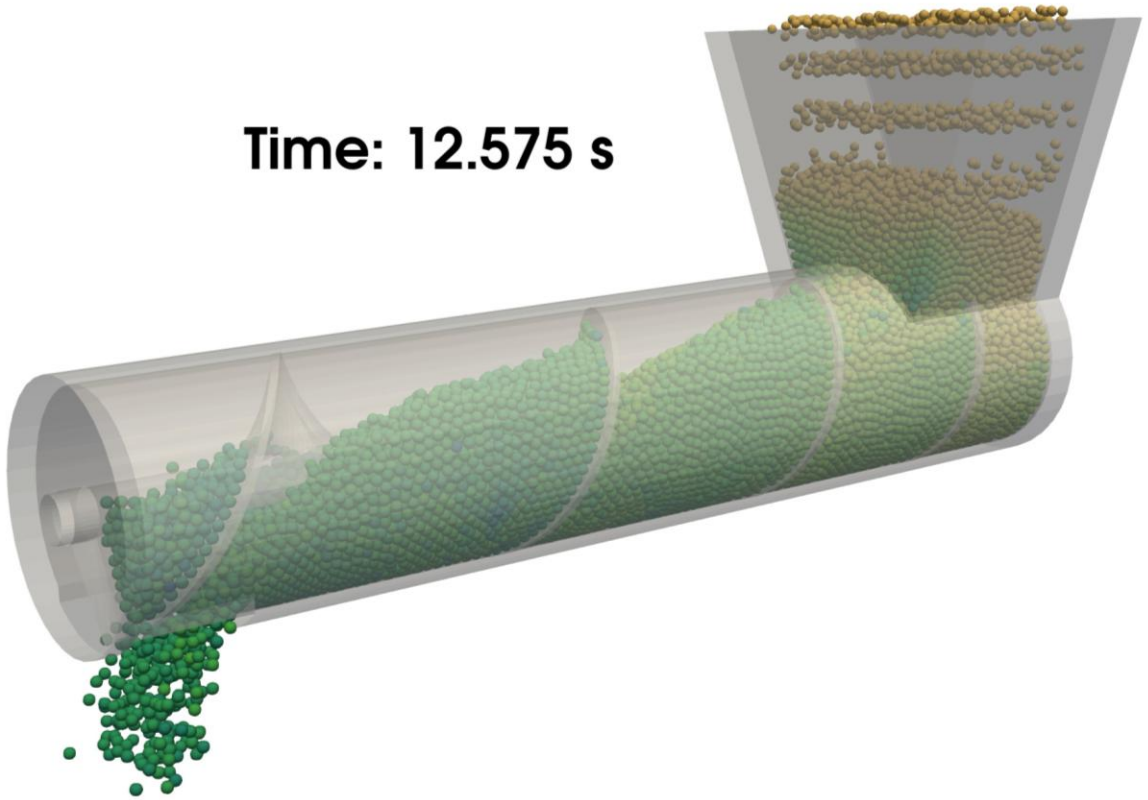
Problem Definition

- Geometric data
  - ID: 20 cm
  - Shell length: 1 m
  - Variable pitch
  - Rotation speed: 30 rpm
- Particles
  - 10-mm and 9-mm spheres
  - Density: 2300 kg/m^3
  - Friction: 0.3
  - Rolling friction: 0.2
  - Restitution coefficient: 0.8
  - Young's modulus: 1 MPa
  - Shear modulus: 0.8 MPa



Problem Definition

- Particle insertion
  - Rate: 2800 particles/s
  - Location: above the feeder
  - Mixture: (5:3 of large and small)



- Simulation
  - Duration: 20 s
  - dt: 2×10^{-5} s
  - Integration method: Adams-Bashforth 4^{th} order