



COMPUTATIONAL ENGINEERING FOR MINING & INDUSTRY

Force, computed

Vis Numerica Engineering · Santiago, Chile

CFD · FEA · DEM · 2026

— WHO WE ARE

Multiphysics computational engineering consultancy

One team for fluids, structures and particles.

Field experience in Chilean mining operations.

Bilingual EN/ES delivery from the start.

The promise. Every model ships validated, with a conclusion a project manager can use without opening the software.



SERVICES

Three lines, one standard

Same name, three lines

VIS NUMERICA • FLOW

CFD

Hydraulics, slurry transport,
transfer chutes and ventilation.

VIS NUMERICA • STRUCT

FEA

Fatigue, structural dynamics,
modal and seismic analysis.

VIS NUMERICA • PARTICLE

DEM

Chutes, conveyors, milling, wear
and segregation.

We model what moves the decision

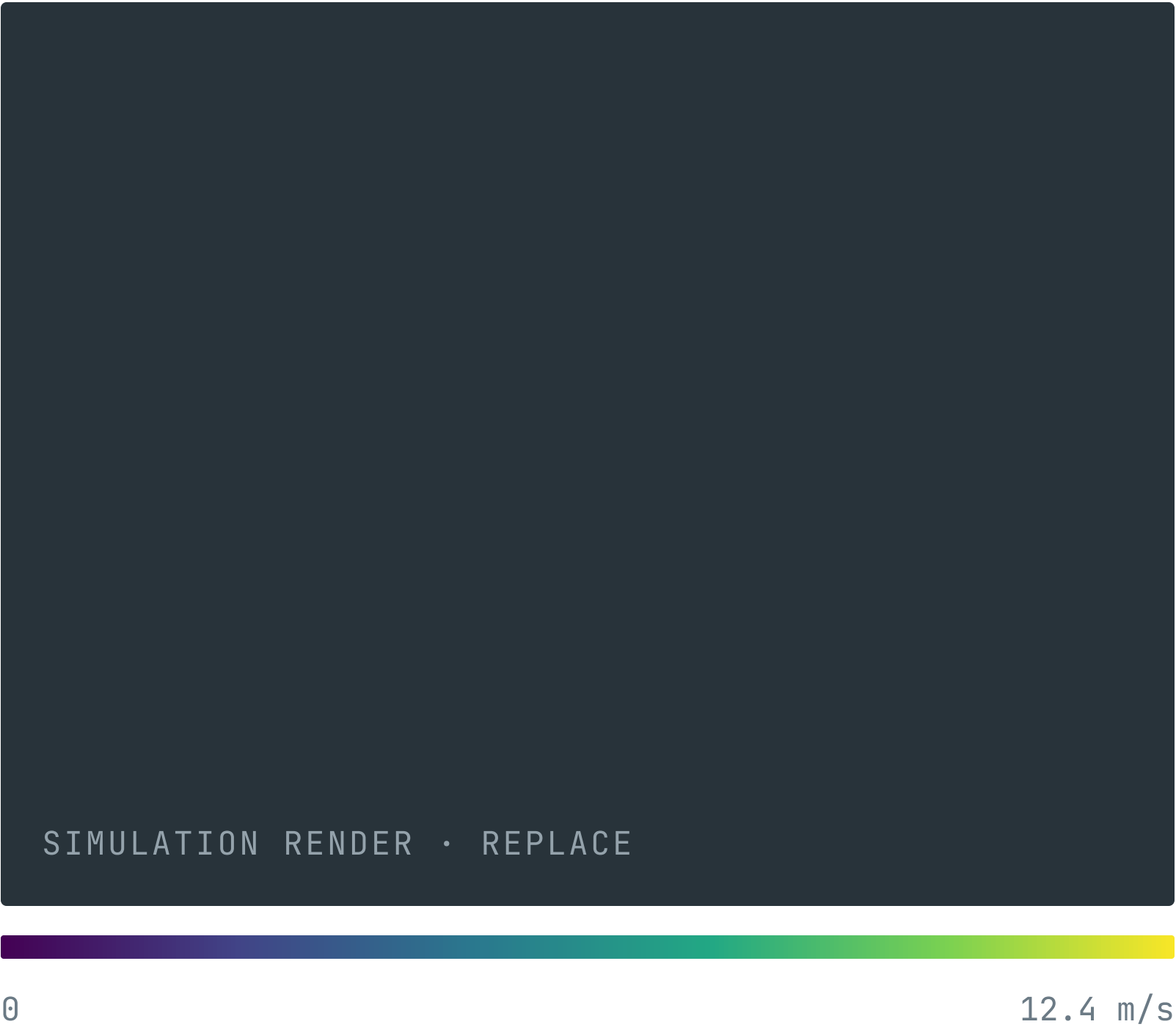
01	Scope	The decision the model must support and its acceptance criterion.
02	Model	Geometry, mesh and the minimum sufficient physics, with documented sensitivity.
03	Convergence	Residuals, balances and cut-off criteria declared before running.
04	Validation	Checked against field measurement, testing or a published reference case.
05	Conclusion	One page with the recommendation, its limits and what would change the answer.

CASE · FLOW

Transfer chute, concentrator plant

The model located the wear zone before assembly; the floor was redesigned and a shift stoppage avoided.

12.4 m/s Peak jet velocity



Primary crusher support

Fatigue under cyclic loads measured on site. Two nodes were reinforced instead of replacing the whole structure.

184 MPa

Peak Von Mises stress

2 nodes

Reinforced instead of replaced

±3 %

Deviation against measurement

Traceability in every delivery

CONTROL POINT	SIMULATED	MEASURED	STATUS
Discharge jet	12.4 m/s	12.1 m/s	±2.5 %
Slurry height	0.42 m	0.44 m	±4.5 %
Flow per launder	318 m³/h	312 m³/h	±1.9 %

What the client receives

- Report with a one-page executive summary.
- Documented method, results and validation.
- Appendices: mesh sensitivity and residuals.

- Result and geometry files handed over.
- Closing presentation with the client team.
- The same delivery in Spanish, at no extra cost.



Tell us which decision you have to make

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`We answer within 48 business hours`

`CFD · FEA · DEM`