11th Annual Global LambdaGrid Workshop

Visualisation in Engineering

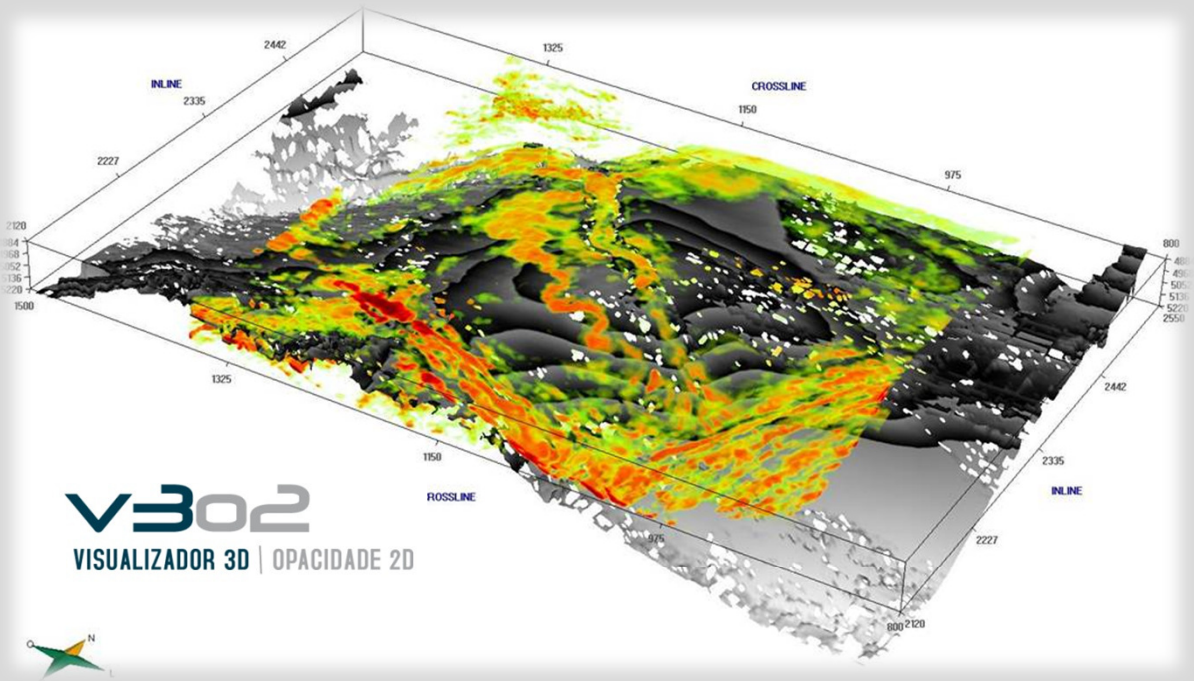
Marcelo Gattass
Tecgraf
PUC-RIO

Tecgraf/PUC-Rio in the Oil Industry

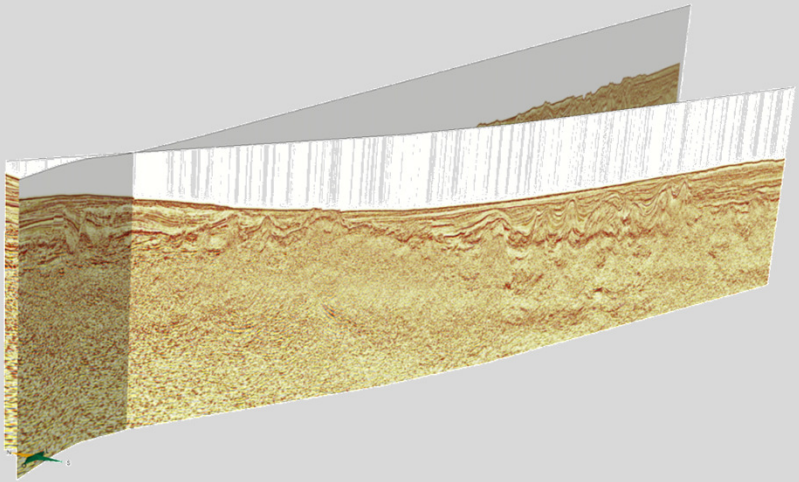
1. Geophysics
2. Geology and Sedimentology
3. Geomechanics
4. Reservoirs
5. Offshore Production Systems
6. Plan Design Systems
7. Logistics and Transportation
8. Safety and Environment
9. Automation and Control
10. Augmented Reality and Immersive Visualization

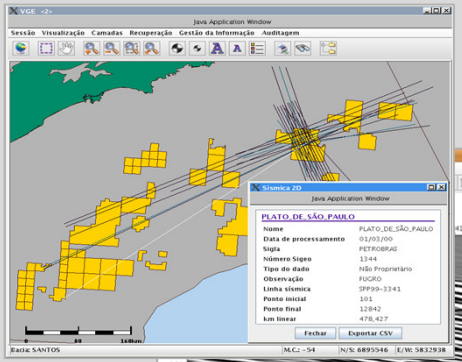
“from the reservoir to the pump”

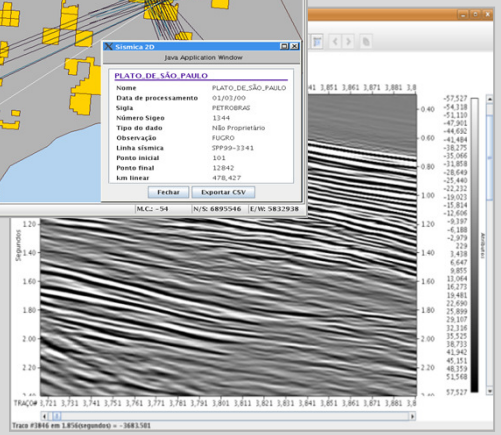
Geophysics



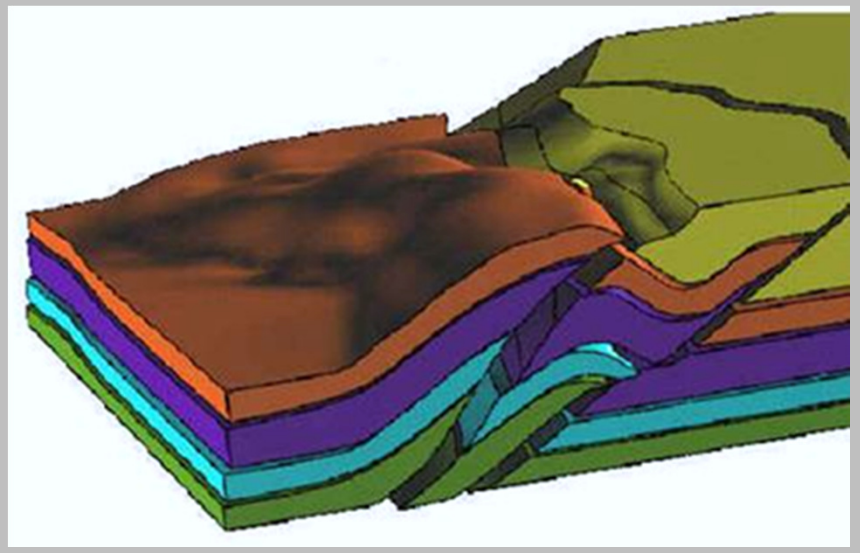
WebSintesi

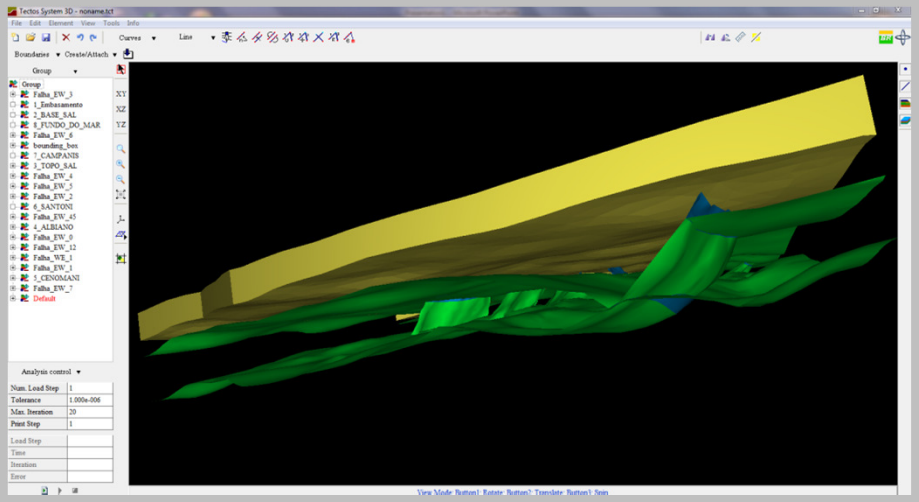


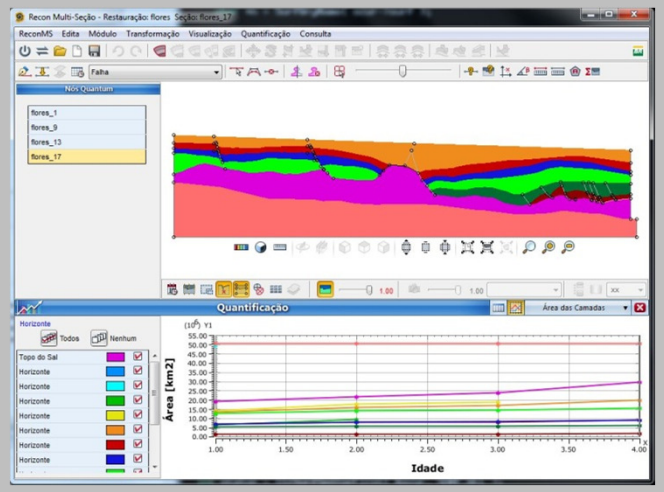


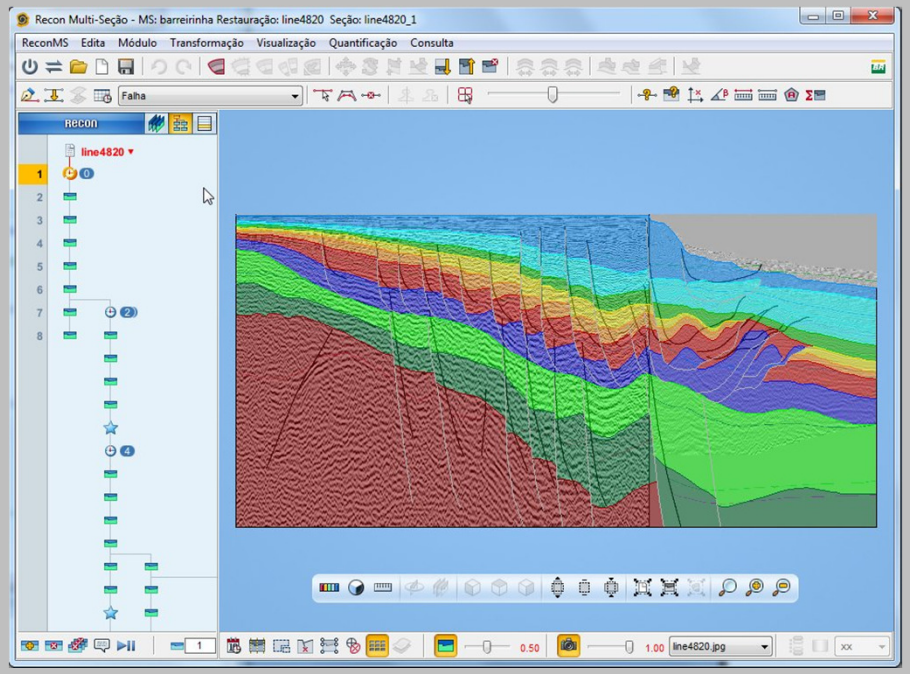


Geology and Sedimentology

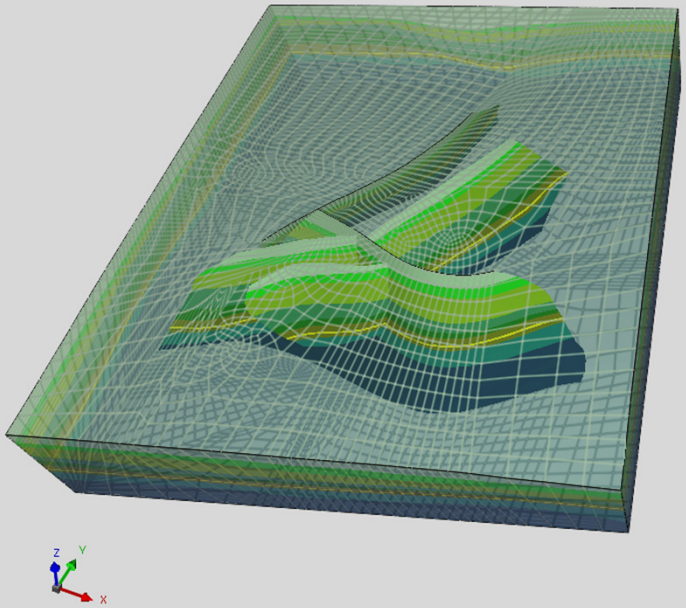


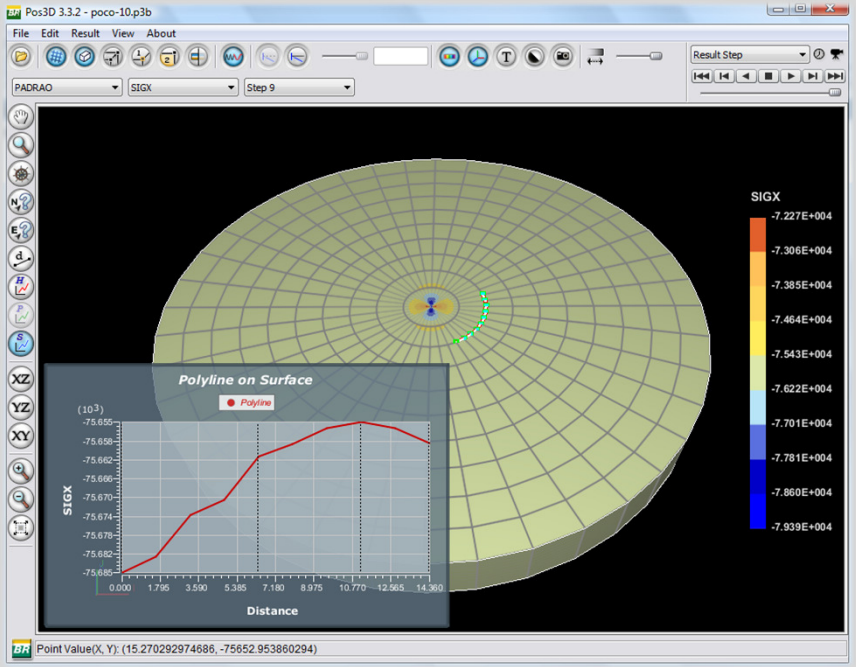




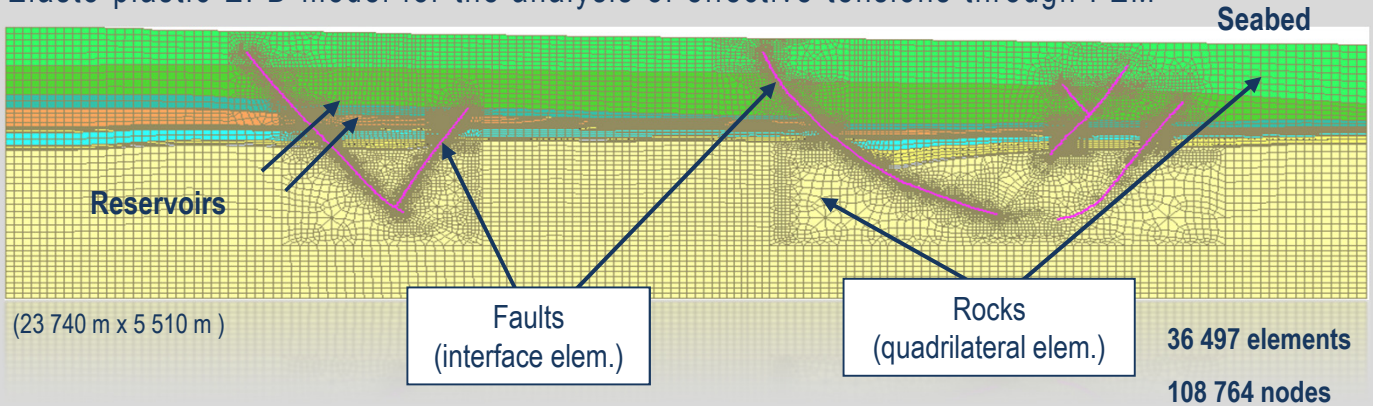


Geomechanics

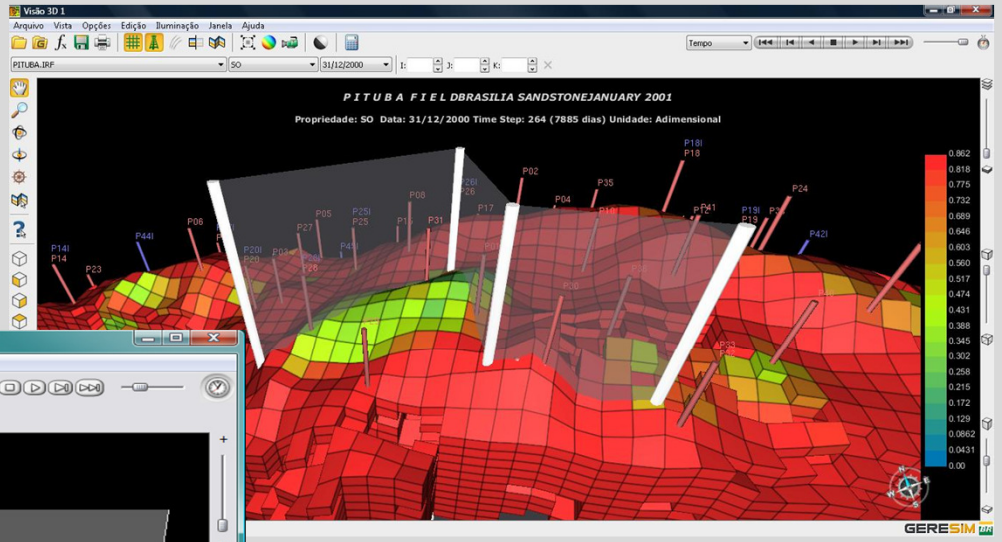


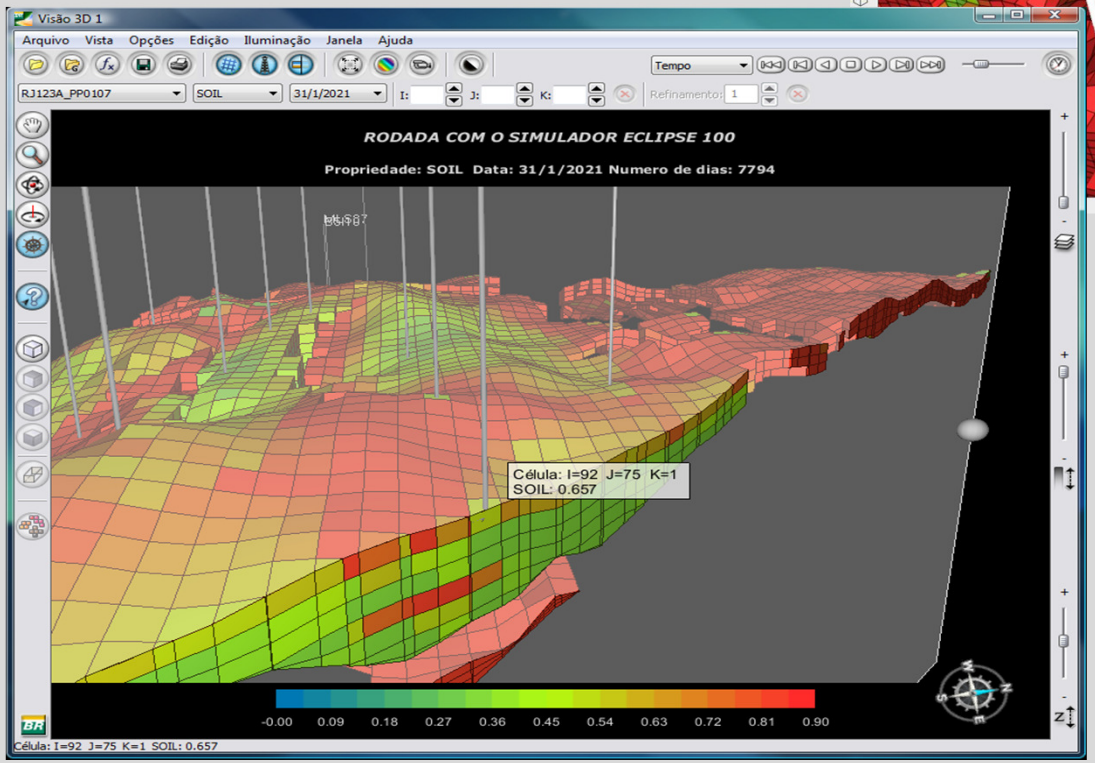


Elasto-plastic EPD model for the analysis of effective tensions through FEM

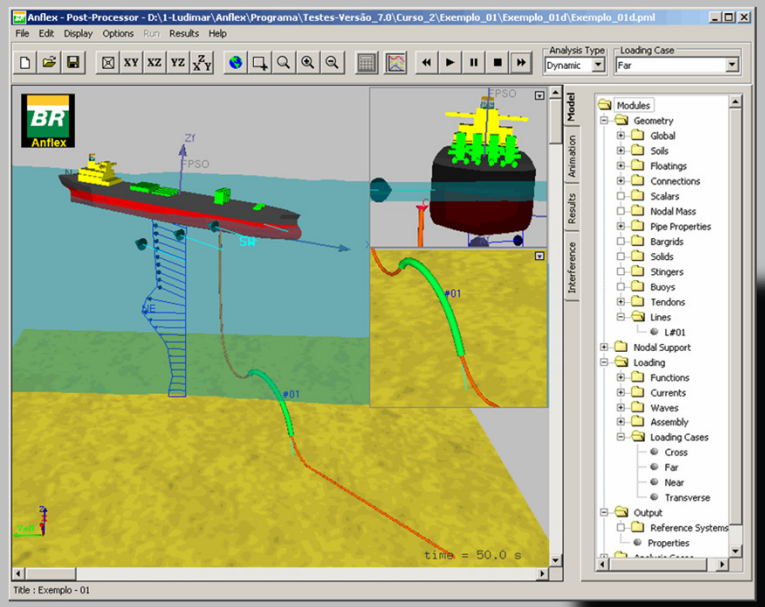


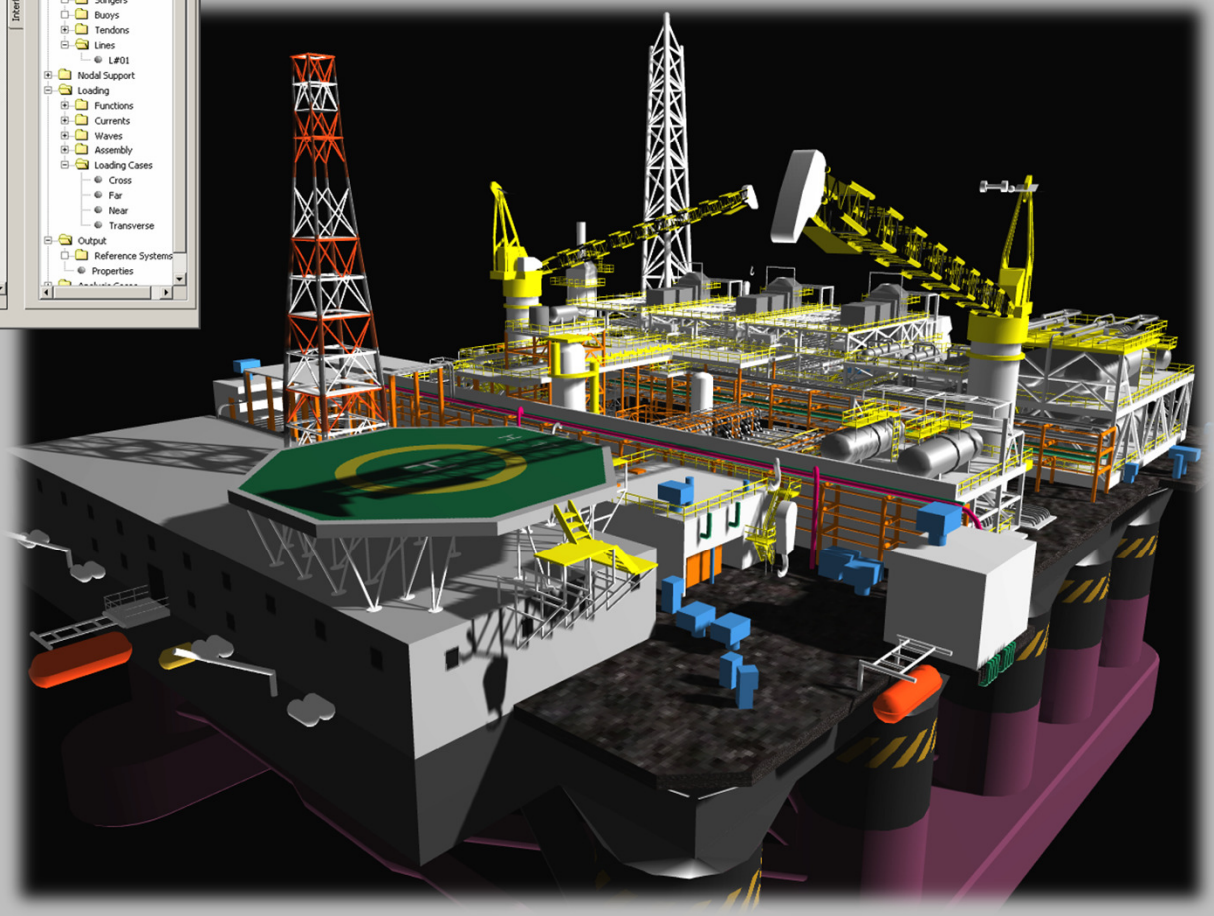
Reservoirs


Visão 3D 1
Arquivo Vista Opções Edição Iluminação Janela Ajuda
PITUBA.IRF
SO
31/12/2000
Tempo
P I T U B A F I E L DBRASILIA SANDSTONEJANUARY 2001
Propriedade: SO Data: 31/12/2000 Time Step: 264 (7885 dias) Unidade: Adimensional
0.862
0.818
0.775
0.732
0.689
0.646
0.603
0.560
0.517
0.474
0.431
0.388
0.345
0.302
0.258
0.215
0.172
0.129
0.0862
0.0431
0.00
GERESIM

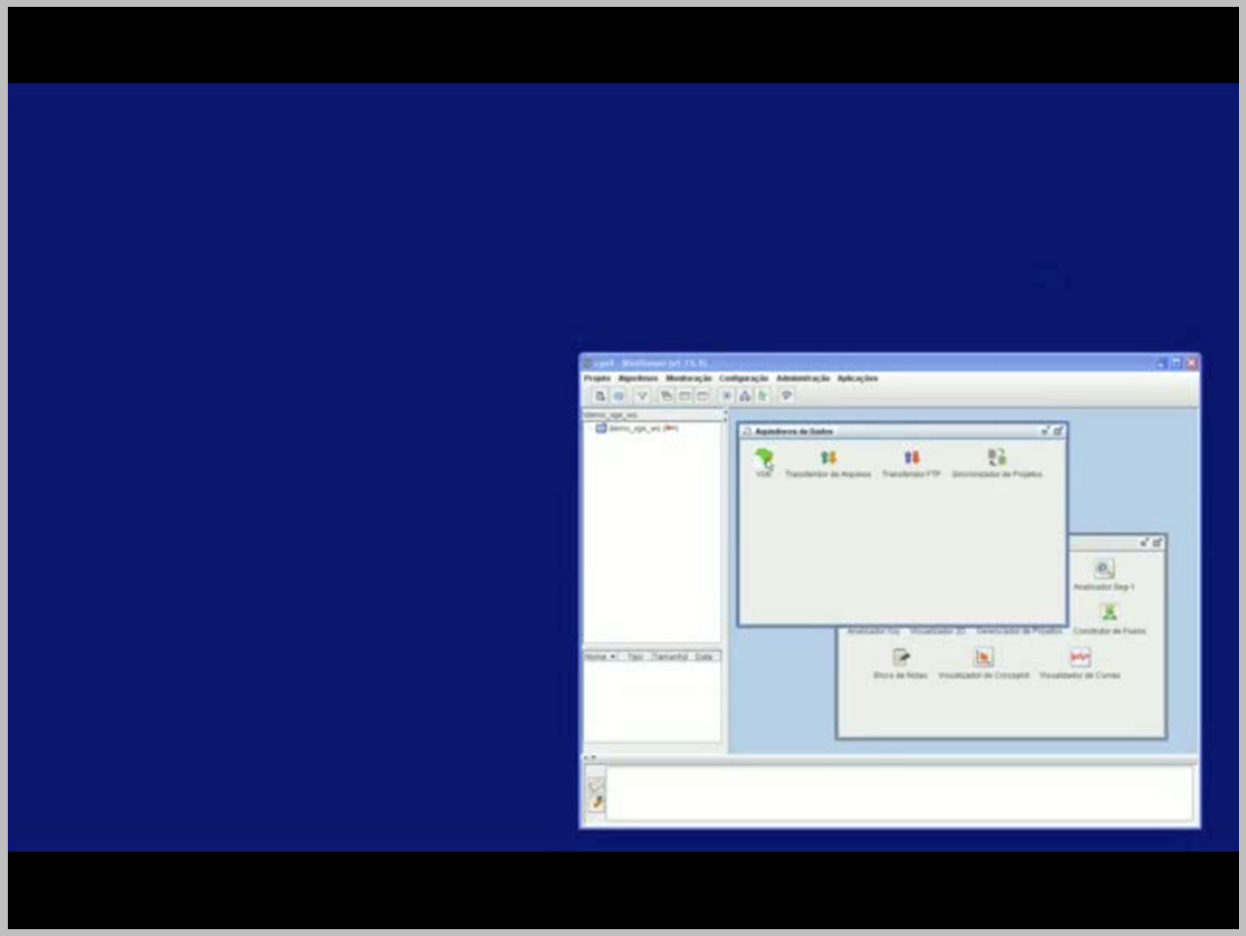

Visão 3D 1
Arquivo Vista Opções Edição Iluminação Janela Ajuda
RJ123A_PP0107
SOIL
31/1/2021
Tempo
Refinamento: 1
RODADA COM O SIMULADOR ECLIPSE 100
Propriedade: SOIL Data: 31/1/2021 Numero de dias: 7794
Célula: I=92 J=75 K=1
SOIL: 0.657
-0.00 0.09 0.18 0.27 0.36 0.45 0.54 0.63 0.72 0.81 0.90
Célula: I=92 J=75 K=1 SOIL: 0.657

Offshore Production Systems

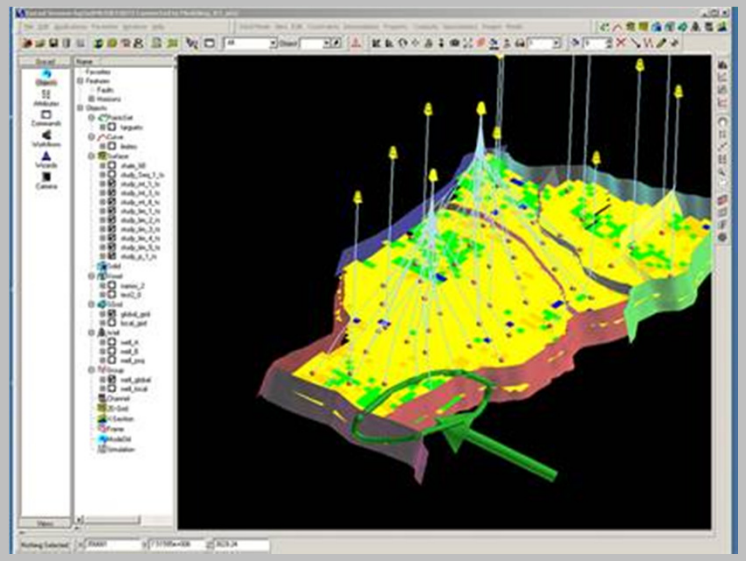


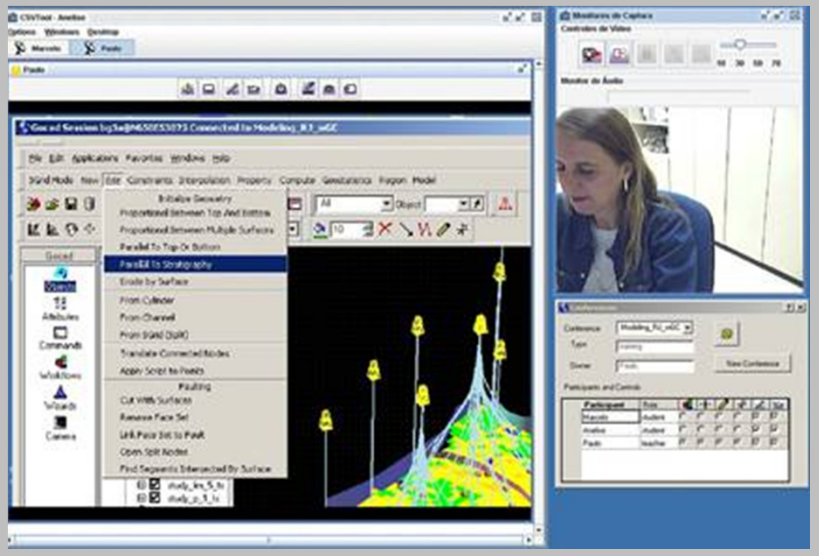


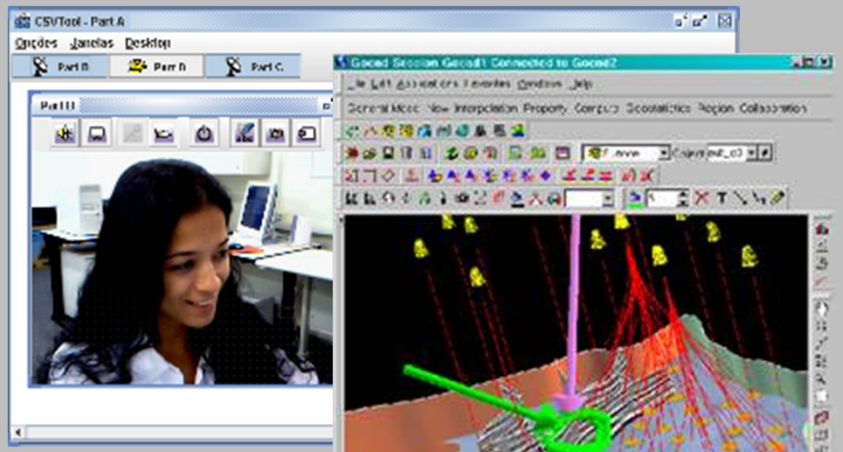
Geological Modeling with Remote Collaboration

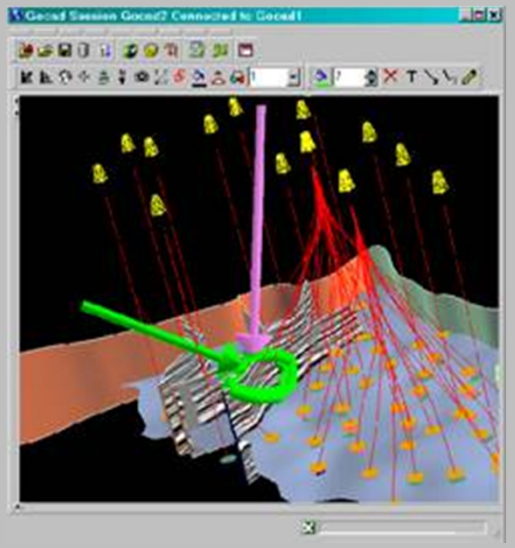


Geological Modeling with Remote Collaboration

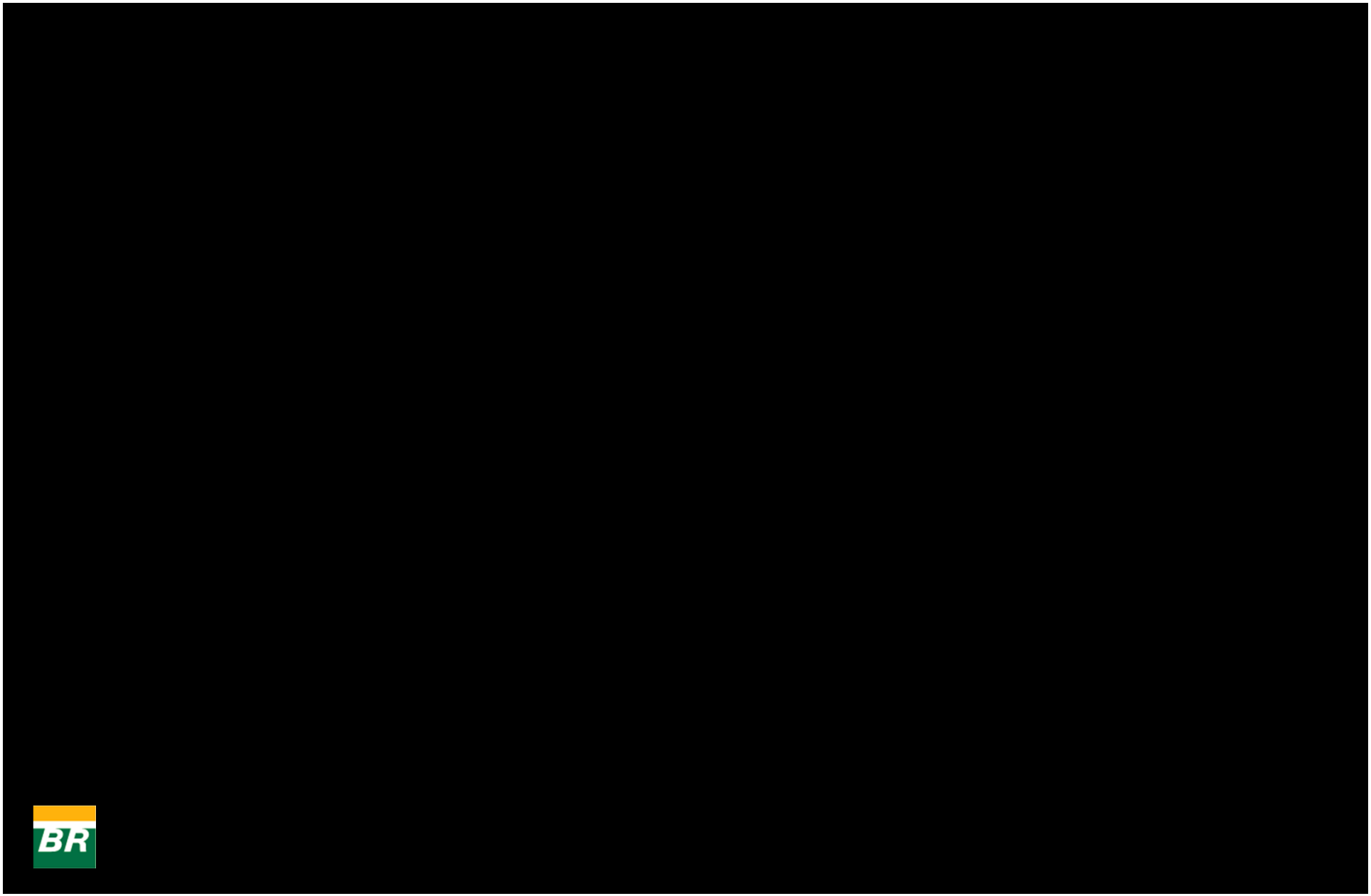




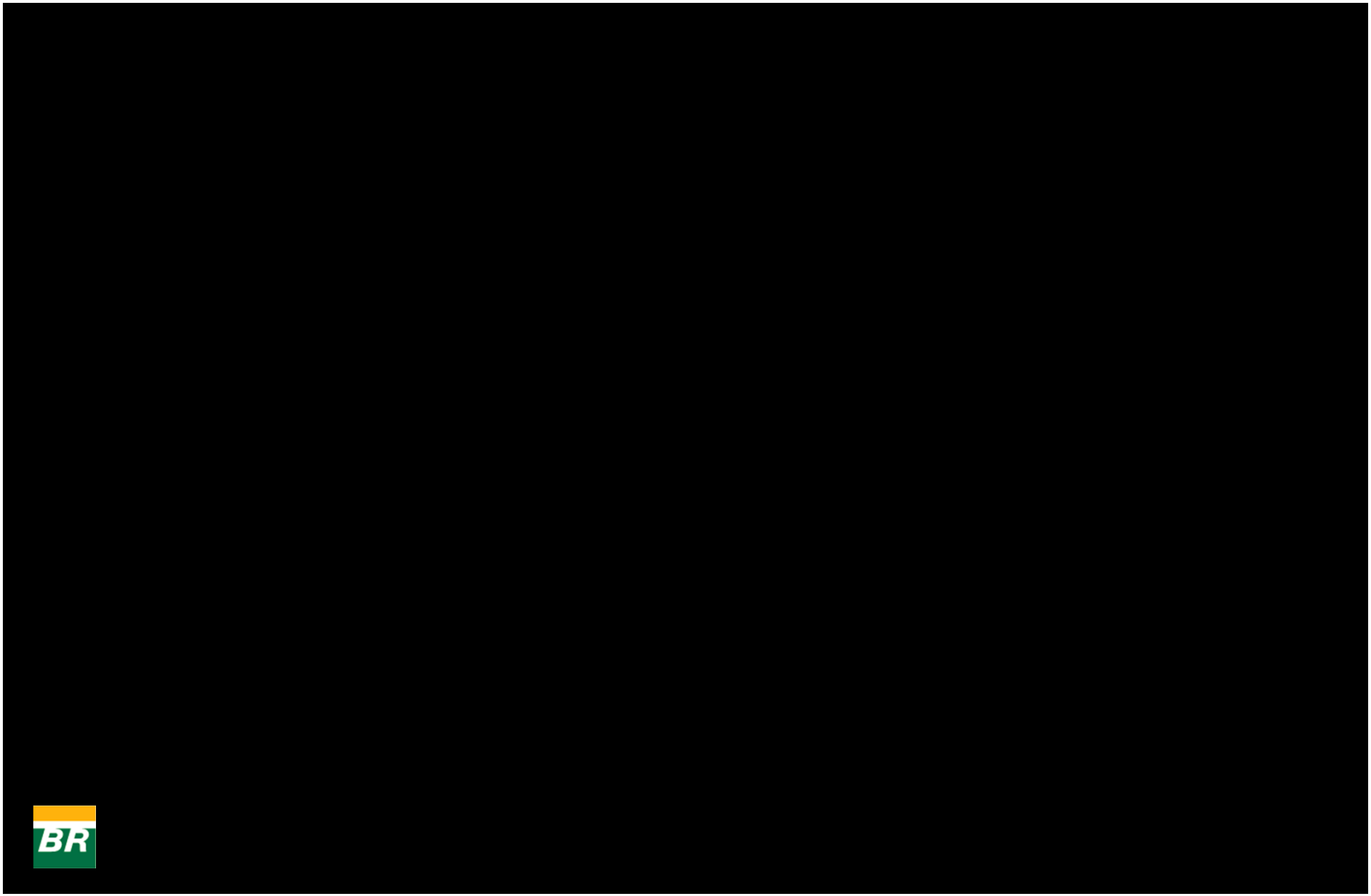




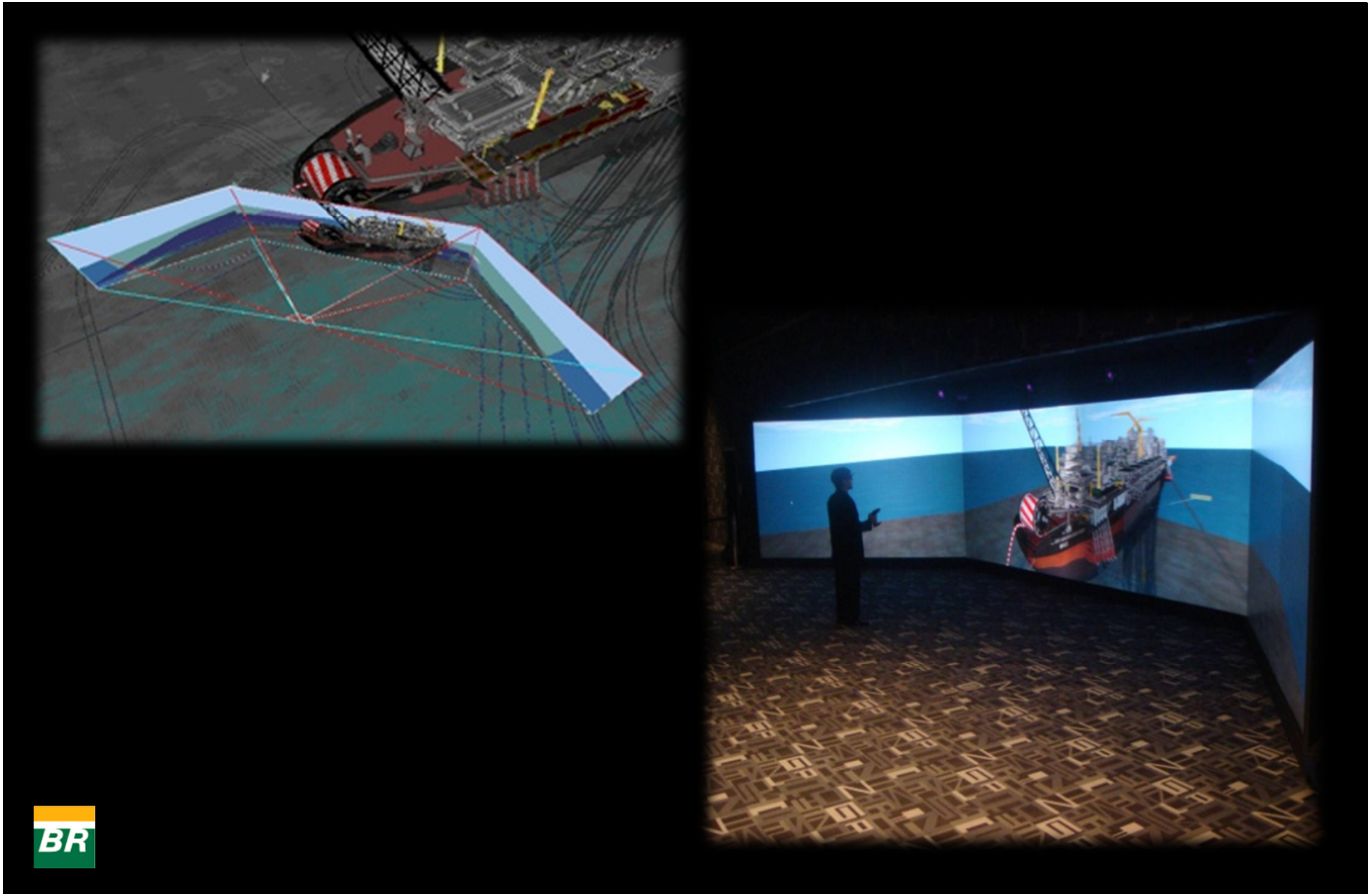
New WIMP in 3D



Navigation in Virtual Environment

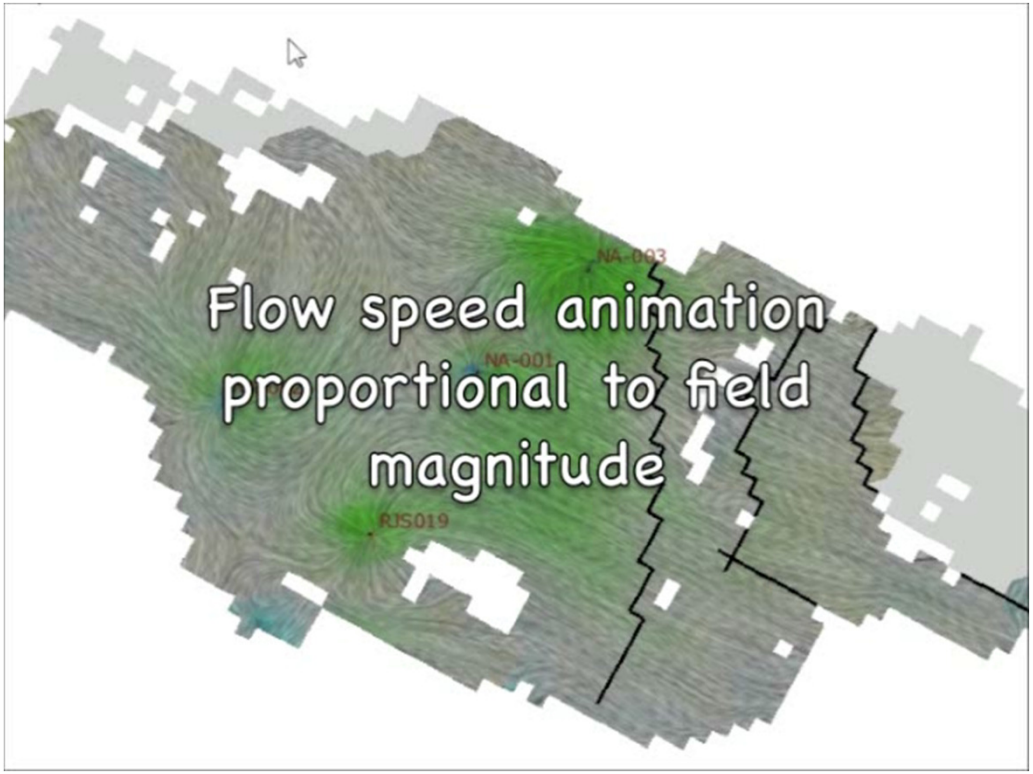


Immersive Visualization



Cave Visualization

Real Time Visualization



Pte. Pres. Costa E Silva
Favela Rer
Saudoso
Niterói
Morro do Pé Peque
Estado
Rio de
Janeiro
Charitas
Favela
Da Marta
Parque
Nacional
da Tijuca

The end

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