

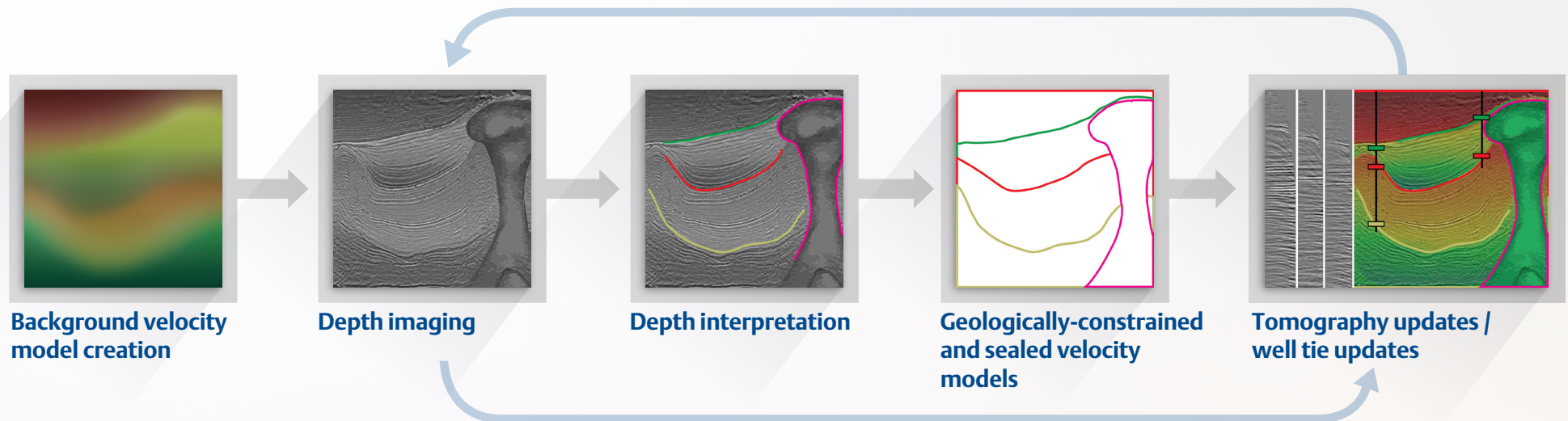
# Emerson Velocity Modeling

## Fully Integrated Velocity Model-Centric Applications

Enables GeoDepth® users to employ SKUA structural and stratigraphic model building capabilities in the depth imaging workflow – particularly valuable in geological regimes defined by faults, salt bodies, unconformities, etc.

Improves results in:

- Seismic imaging (time and depth)
- Time-to-depth conversion
- Depth-to-depth conversion
- Seismic characterization - Impedance modeling
- Pore pressure prediction
- Anisotropic regimes
- Synthetic seismic generation using Reverse Time Migration modeling



### Unique advantages of Emerson velocity modeling solutions

Velocity determination and modeling for all regimes – subsalt, shales, fractured carbonate, overthrust, overpressured, stratigraphic

- Constrained Velocity Inversion
- Full anisotropic velocity model descriptions with interactive parameter determinations
- Customizable and synchronized horizon and vertical velocity analysis windows
- A full range of 3D prestack depth migrations
- Full support for anisotropic models
- Full-azimuth angle gathers generated from EarthStudy 360®
- Full seismic interpretation in the depth domain
- Depth domain synthetics calibration
- Multi-value interpretation (salt, overthrust)
- Validation with illumination analysis
- Validation with RTM modeling
- Geologically-constrained and sealed velocity models
- Complex salt velocity handling with rapid updates
- Structural and stratigraphic velocity models incorporating surface seismic and borehole data
- Anisotropic model and grid based tomography
- Simultaneous VSP and surface seismic tomographic updates
- Anisotropic time-depth and re-depting
- Well-marker mis-tie tomography
- High-resolution updates from full-azimuth residual moveouts