

Unconventionals Technology Trajectory

FUTURE:

Advanced tools to realistically predict fracturing and dynamic behavior. Use all the data to constrain the solutions. Optimize the system, not the parts. Integrate! Integrate! Integrate!

PRESENT:

Vast amounts of industry experience. Multiple plays. Academic research. Emerging modeling tools with sophisticated treatment of complex interactions. Better subsurface sensing. Data! Data! Data!

PAST:

Little understanding of a very complex system. No broad industry experience. Trial and error. Rules of thumb and simplistic models. Point solutions. Barnett Shale is only example.