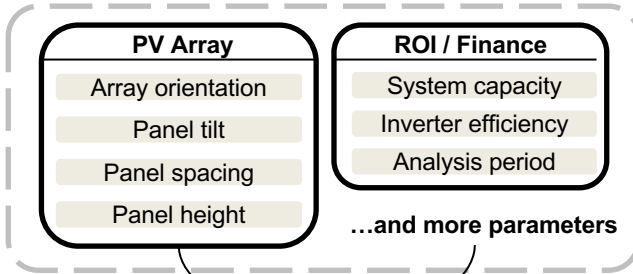# Parallel Works: Accelerating Solar PV Engineering
Solar Photovoltaic Annual ROI Design Explorer

*Parallel Works is a computing platform that allows engineers to **build, deploy and run** automated workflows.*
We can **couple industry recognized software** for annual solar radiation prediction and financial ROI analysis.
Predict and optimize a plant's IRR, system capacity and solar yield (among other things), and **share these workflows** across your organization to **accelerate your design engineering process**.

Solar Array Inputs and Parameters

PV Array
- Array orientation
- Panel tilt
- Panel spacing
- Panel height

ROI / Finance
- System capacity
- Inverter efficiency
- Analysis period

…and more parameters

Swift Parallel Script Wrapper

swift ↗
Argonne NATIONAL LABORATORY
http://swift-lang.org

Execution on Diverse Computing Resources
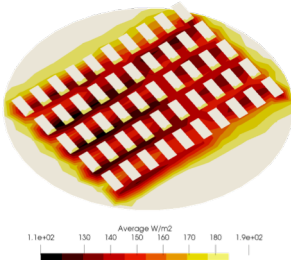
amazon web services™

CRAY

Array 1 Analysis
1. Array Geometry
2. Annual Radiation
3. NREL SAM ROI

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Array N Analysis
1. Array Geometry
2. Annual Radiation
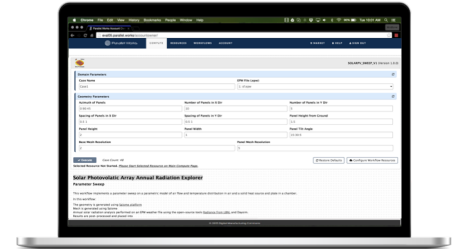3. NREL SAM ROI

Web-Based Result Visualization

Average W/m2
1.1e+02 130 140 150 160 170 180 1.9e+02

Radiance

Weather-Dependent Annual Solar Radiation Profile

NREL
NATIONAL RENEWABLE ENERGY LABORATORY
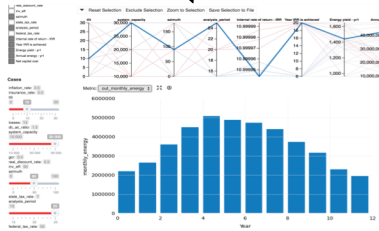
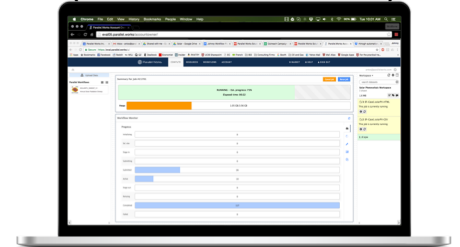*Optimized ROI, NPV, payback period, etc.*

Web-Based Input

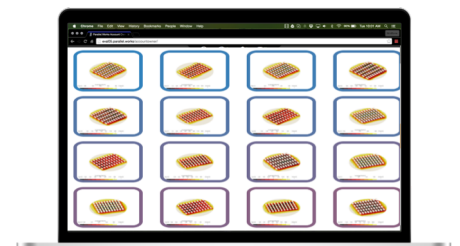*Specify inputs, parameters and variables*

Solar Simulation Engine (Radiance / NREL SAM)

Track workflow progress and view intermediate results

PV Array Configuration Results

Rapidly analyze and visualize 1000x simulation results

Learn more about how Parallel Works can enhance your solar energy design practice
Matthew Shaxted
Founder & President
shaxted@parallelworks.com

Parallel Works