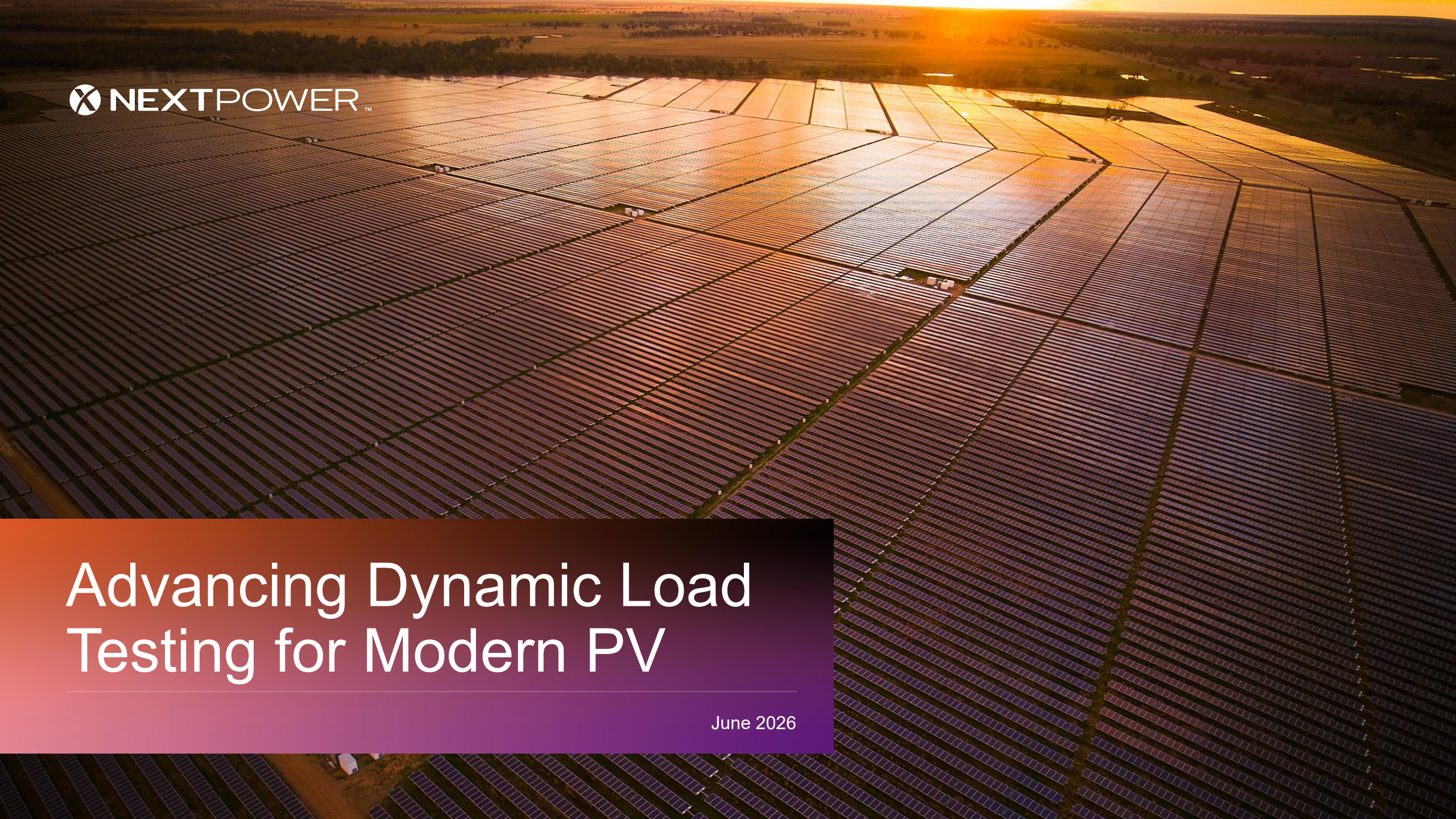


Advancing Dynamic Load Testing for Modern PV

June 2026

About Nextpower

- Leading solar technology platform for utility-scale power plants
- #1 Global market share; #1 U.S., Europe, LATAM and Australia[1]
- $3.6 billion revenue in FY26
- 160+ GW shipped since 2013 founding[2]
- 2000+ employees, nine global offices, HQ Silicon Valley
- 100+ manufacturing facilities
- 45+ countries served
- 1500+ patents issued and pending[3]
- Public company NASDAQ: NXT
- Investment-grade credit rating from Fitch

[1] Through 2024 based on GW trackers shipped – Wood Mackenzie Ltd., Global Solar PV Tracker Market Share 2025 and Wood Mackenzie Ltd., The Global PV Tracker Landscape 2016: Prices, Forecasts, Market Shares and Vendor Profiles, October 2016
[2] 160+ GW shipped as of FY26 end
[3] 1500+ issued patents (U.S. and international) as of January 2026

Nextpower Technology Platform Today

Trackers

- NX Horizon®
- NX Horizon-XTR™
- NX Horizon ® with Hail Pro™
- NX Horizon® Low Carbon

Foundations

- NX Anchor™
- NX Earth Truss™
- Traditional Piles

Module Frames

- NX CoreFrame™

eBOS

- NX PowerMerge™
- String Harnessing
- Trunk Systems
- Combiner Systems

Software

- NX One™
- NX Portal
- NX Navigator ®
- NX Pulse™

Controls

- TrueCapture®
- Tracker Controllers
- Network Controllers

Robotics and AI Services

- NX Vantage™
- NX Ranger™
- NX Clario™ soiling monitoring
- Robotic panel cleaning

Power Conversion

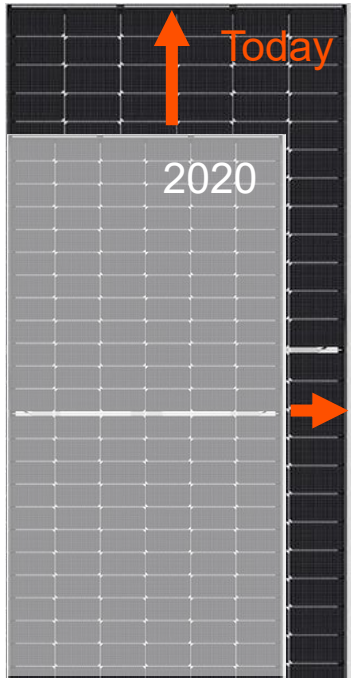
Solar and Storage

Module Trends Require Purpose-Built Frame Engineering

Larger formats increase total force on modules while design trends are reducing strength

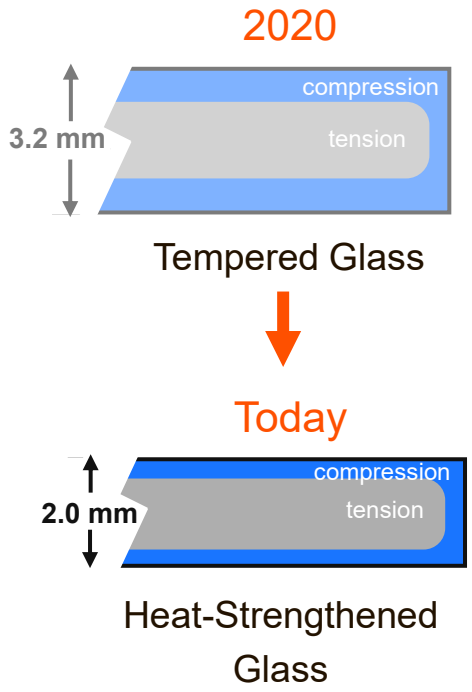
Larger Modules

40% to 60% surface area increase since 2020



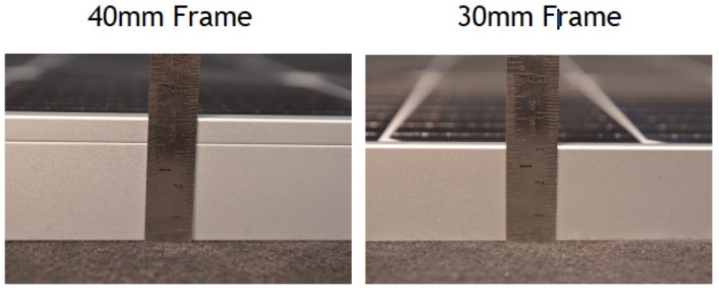
Thinner Glass

Transition to dual-glass driving weakening glass



Shorter Frame Heights

Material reductions and packaging savings

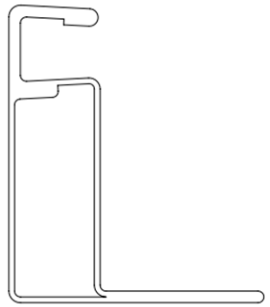


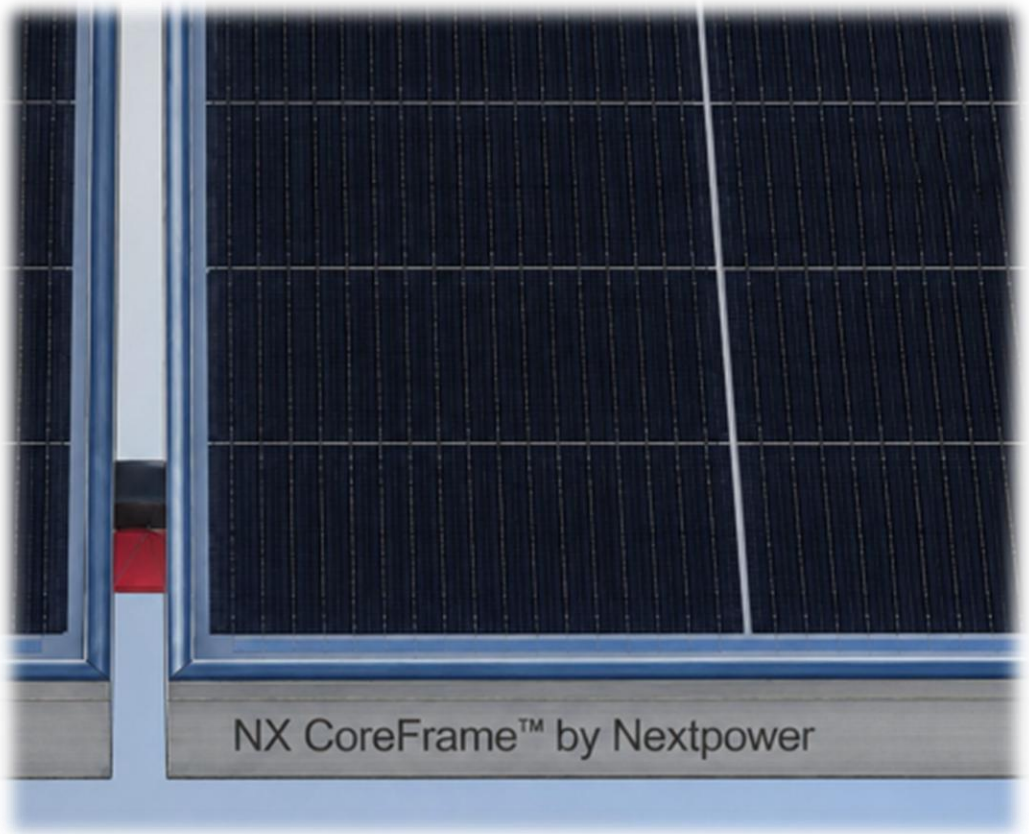
Source: GroundWork Renewables

The Steel Frame Advantage

NX CoreFrame™ is engineered to meet evolving strength requirements with a next-gen steel frame design

- High-strength steel increases material strength vs. aluminum **>2X**
- Enhanced stiffness reduces module deflection and **lowers risk of glass breakage**
- Increases load at failure **up to 130%**
- Simplifies tracker configurations, reduces long mounting rail usage
- Built on 4+ years of Origami Solar development and enhanced by Nextpower engineering
- Universal frame profile offers drop-in compatibility



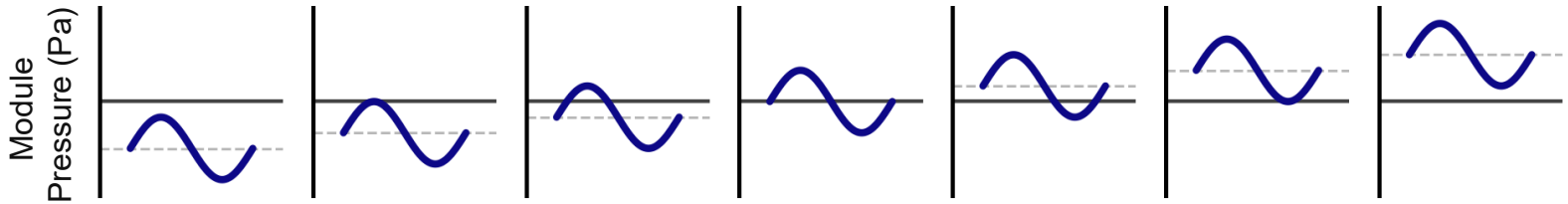


Dynamic Loading Procedures Need Work

Insufficient standards limit confidence in real-world performance.

- Current certification standard: IEC 61215:2021 MQT 20 (Per IEC TS 62782) - not representative of field conditions
  - +/-1000Pa for 1000 cycles
- Alternative methodologies are emerging, but correlation to real wind effects is lacking
- Modules experience a wide range of dynamic loads, which don't typically oscillate around a zero value

- **Nextpower is leveraging wind engineering expertise and testing capabilities to advance industry understanding**



Fatigue Test Development – Work in Progress

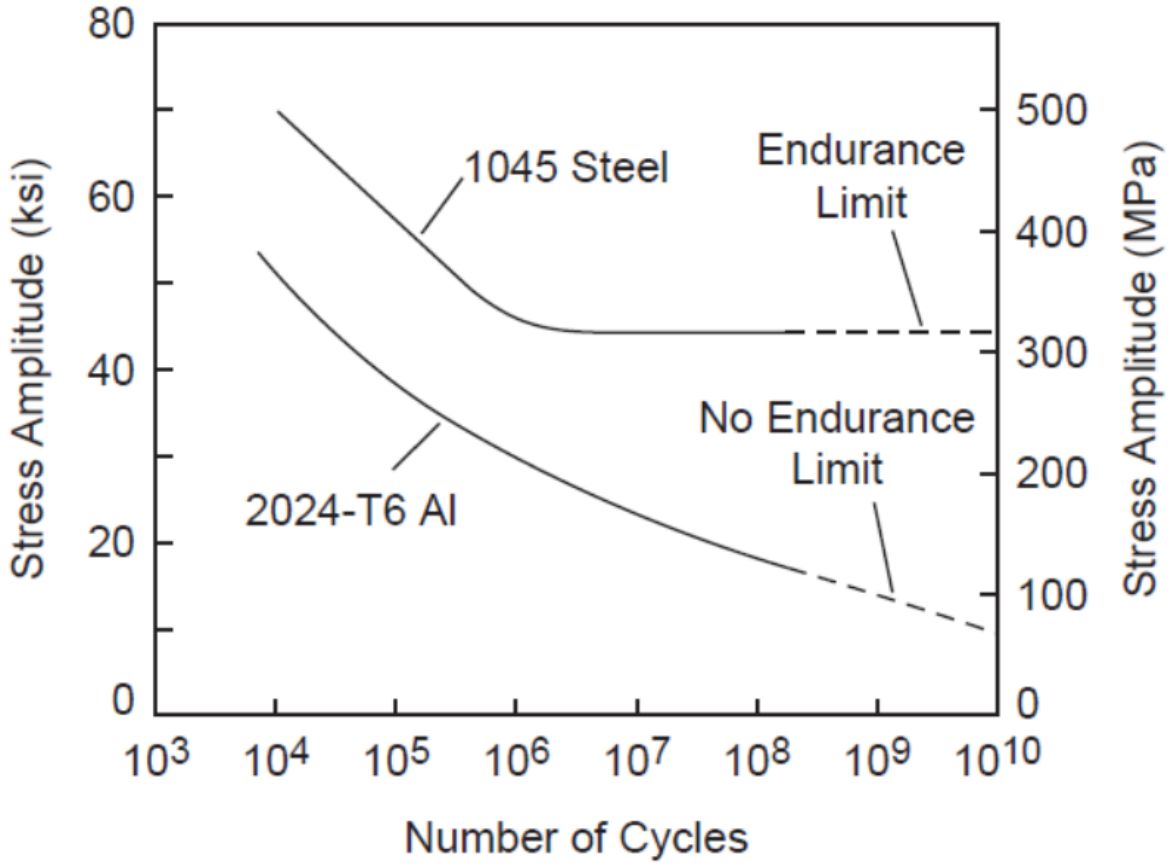
Various factors impact field fatigue

Step 1: Determine pressure cycles experienced in the field through engagement with CPP[1]	Impacted by: • Module size • Stow conditions • Perimeter vs. interior, tilt, height, GCR, etc.
Step 2: Run FEA model to determine cumulative damage incurred	Impacted by: • Mounting configuration • Frame design • Material used: Aluminum vs. Steel
Step 3: Determine test cycle constraints: total cycle count, pressure bins, min absolute amplitude (zero Pa)	Balance of what's realistically doable in a lab but still captures cumulative damage incurred
Step 4: Iteratively solve for a test plan that generates equivalent damage to 40+ year life in the field	Pressure cycles (from the field) are projected to equivalent damage test cycles
Future Work: Repeat for different frame designs and materials, stow conditions, site conditions	Will require many iterations to generalize to a single test conditions Fatigue tests should be reflective of field mounting configuration

1. Global leader in wind engineering since 1981; Operates state-of-the-art wind tunnel facilities

Infinite Fatigue Life of Steel vs Aluminum

- Metal fatigue is caused by initiation and growth of cracks under cyclic loads
- Endurance Limit: At low cyclic stresses, steel does not fatigue
- Steel microstructure arrests small fatigue crack growth
- Aluminum comparatively has no endurance limit
- Aluminum cracks propagate slowly, even at low stresses



A Study on Improvement of Fatigue Life of materials by Surface Coatings - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/Comparison-of-steel-and-aluminum-fatigue-behavior_fig1_322220529

Wind Study Site Selection

4 sites representing extreme dynamic conditions of varying modes

Colorado Springs, CO

Mountain downslope winds

- moderate-to-high wind speeds at long durations

Zaragoza, Spain

Valley-channeled winds

- sustained moderate-speed winds and occasional high-speed gusts

Tampa, FL

Hurricane winds

- very high sustained westerly winds and major dynamic effects

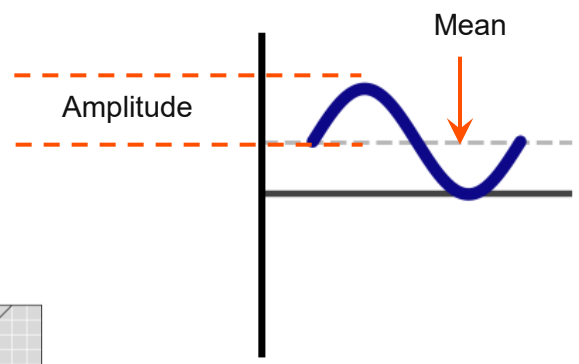
Midland, TX

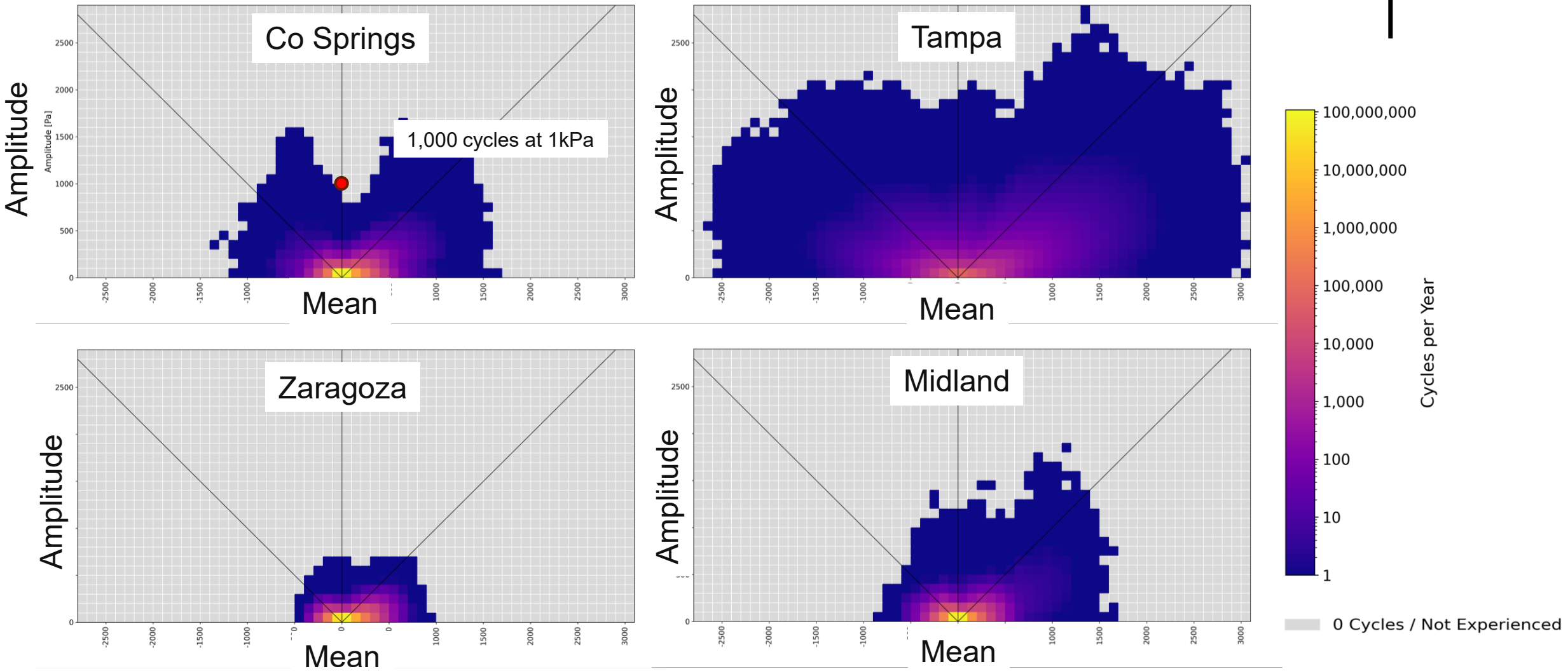
Thunderstorms

- west/southwest, often accompanied by hailstorms forcing back-winded stow

Real World Module Pressures Experienced

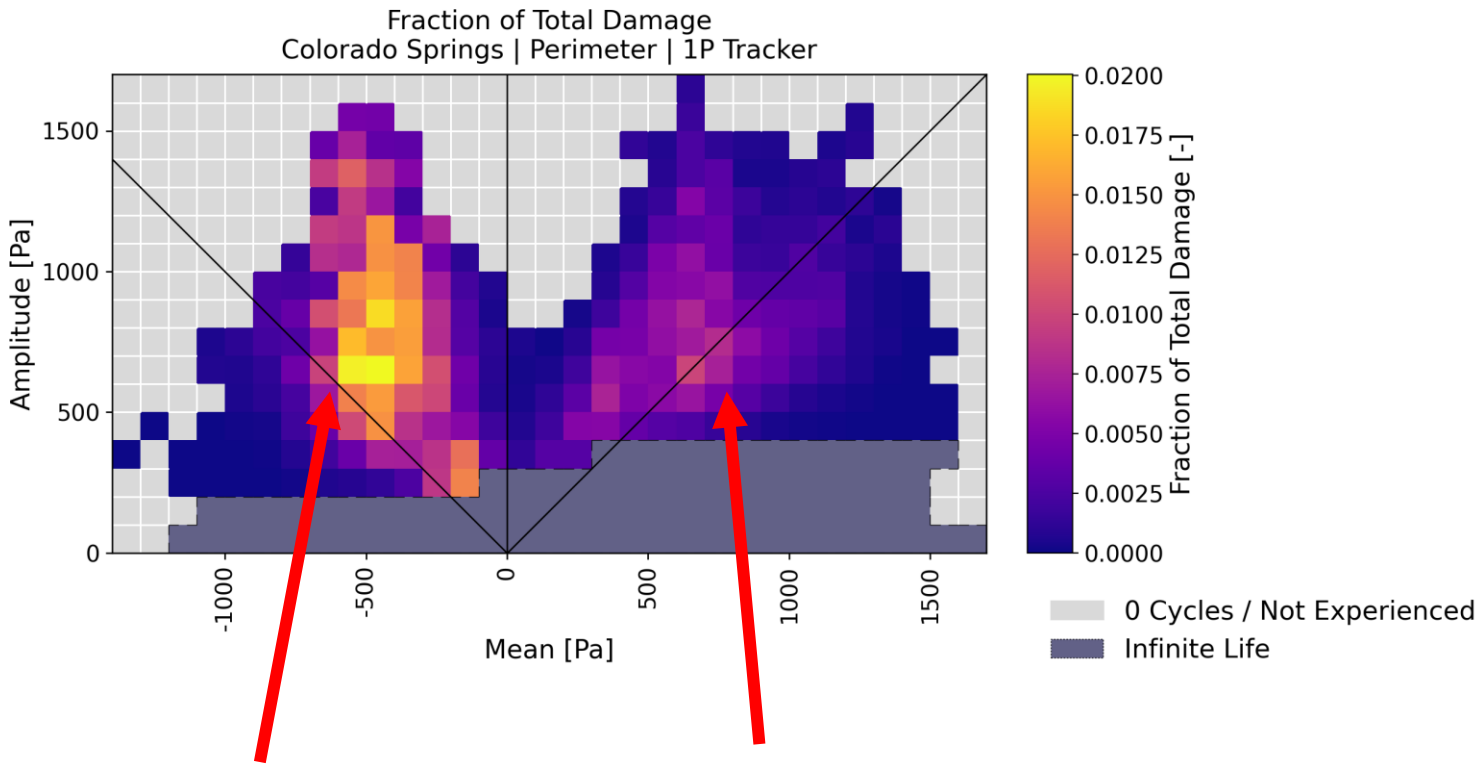
Perimeter Modules and Front-Winded Stow





Example Fatigue For One Frame Design

Need to repeat for multiple profile designs and materials to establish envelope of response



Damage generating cycles cluster around half-cycle loading

98.0%

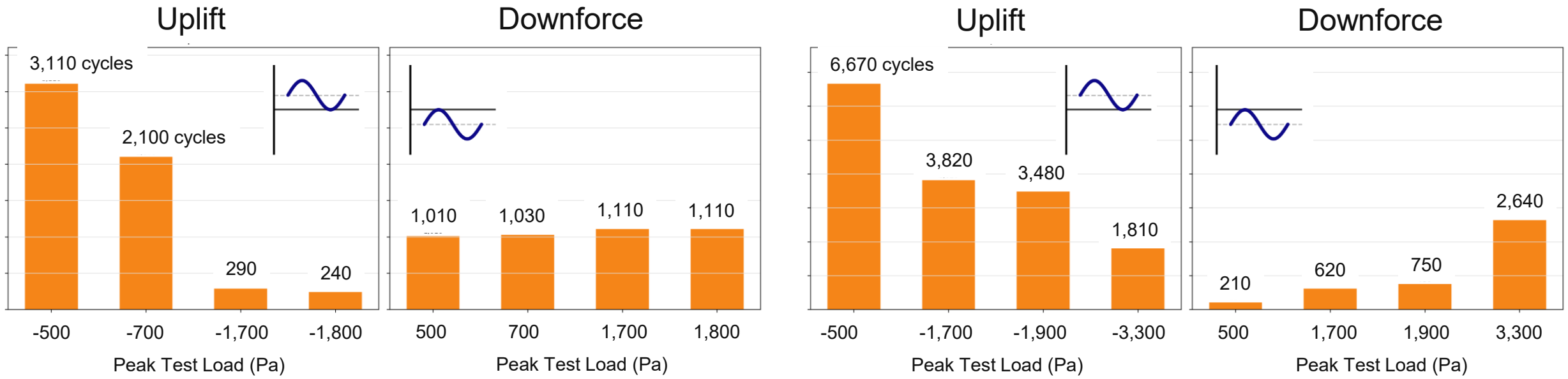
Of cumulative damage generating cycles have an amplitude < 1,000 Pa

30.0%

Reduction of cumulative damage by stowing into the wind

Preliminary Fatigue Tests

The testing program should be viewed as indicative – it will evolve as we continue the analysis



Non-Hurricane Test Protocol

- 10k total cycles
- Half cycles (zero to max load)
- Worst case damage from all non-Florida sites

Hurricane Test Protocol

- 20k total cycles
- Half cycles (zero to max load)
- Test pressures are increased

Conclusions and Next Steps

Nextpower will continue its research to develop a universally-applicable dynamic testing protocol

Early Conclusions

- Fully reversing Load (pressure centered around zero Pa) tests are not reflective of real-world conditions
- Critical to cumulative damage:
  - Site conditions
  - Stowing strategy
  - Module mounting
- Hurricane regions should have a unique fatigue test
- Fatigue tests should match mounting configuration

Next Steps

- Broaden wind study analysis to expand scope of mounting and module sizes
- Complete FEA analysis on aluminum to generalize test cycles
- Perform testing on aluminum and steel frame modules
- Iterate fatigue testing protocol – initial results suggest separate tests for hurricane and non-hurricane
- Investigate test sequence ordering to capture history effects and ensure tests capture failure mechanisms generated by periodic overloading

NEXTPOWER™

Download our latest white paper on Steel Frames
“Reinforcing the Future of Solar with NX CoreFrame”

https://tinyurl.com/NXCoreFrame