

An aerial photograph showing a large data center facility with multiple long, white server racks arranged in a grid pattern. In the background, a vast field of wind turbines stretches towards the horizon under a blue sky with scattered clouds. The terrain is flat and appears to be a dry, open landscape.

SOLUNA 

**The future of
renewable energy
is computing.**

Nasdaq: SLNH

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This presentation includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act that reflect our current views with respect to, among other things, our operations, business strategy, interpretation of prior development activities, plans to develop and commercialize our products and services, potential market opportunity, financial performance and needs for additional financing. We have used words like "anticipate," "believe," "could," "estimate," "expect," "future," "intend," "may," "plan," "potential," "project," "will," and similar terms and phrases to identify forward-looking statements in this presentation.

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To supplement our consolidated financial statements, which are prepared and presented in accordance with GAAP, we use the following non-GAAP financial measures: non-gaap revenue, cash contribution margin, cash contribution margin excluding tornado, cash contribution margin excl. tornado & shutdown, adjusted cost of cryptocurrency revenue and adjusted EBITDA contribution. The presentation of this financial information is not intended to be considered in isolation or as a substitute for, or superior to, the financial information prepared and presented in accordance with GAAP.

Use of Estimates in Monthly Presentations

Numbers presented BEFORE the release of Form 10-Q for third quarter ended September 30th, 2022, are monthly estimates and subject to change upon final accounting adjustments and entries. These monthly estimates are presented as an illustration of management's review of key metrics that help in understanding the performance of the Company. Readers are strongly encouraged to review this presentation in connection with the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2022 and the Company's Annual Report on Form 10-K for the year ended December 31, 2021.



OUR BUSINESS

Soluna harnesses the power of computing to address a huge problem for renewable energy
wasted energy.

OUR PROJECTS

Our data centers are
18% greener
than typical data centers
& ready to drive sustainable AI

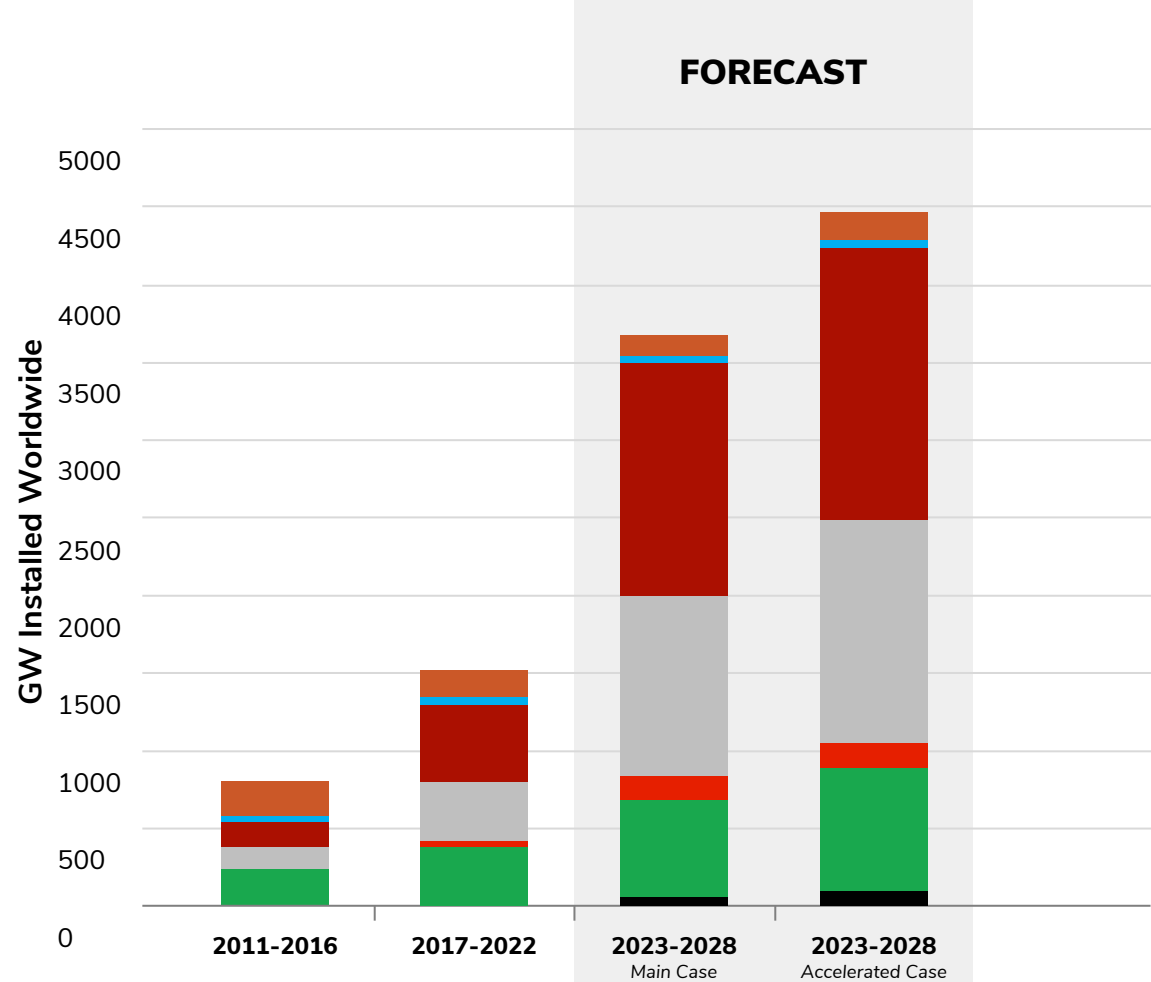
OUR PROMISE

Our computing projects
return capital invested in under 2.5 years



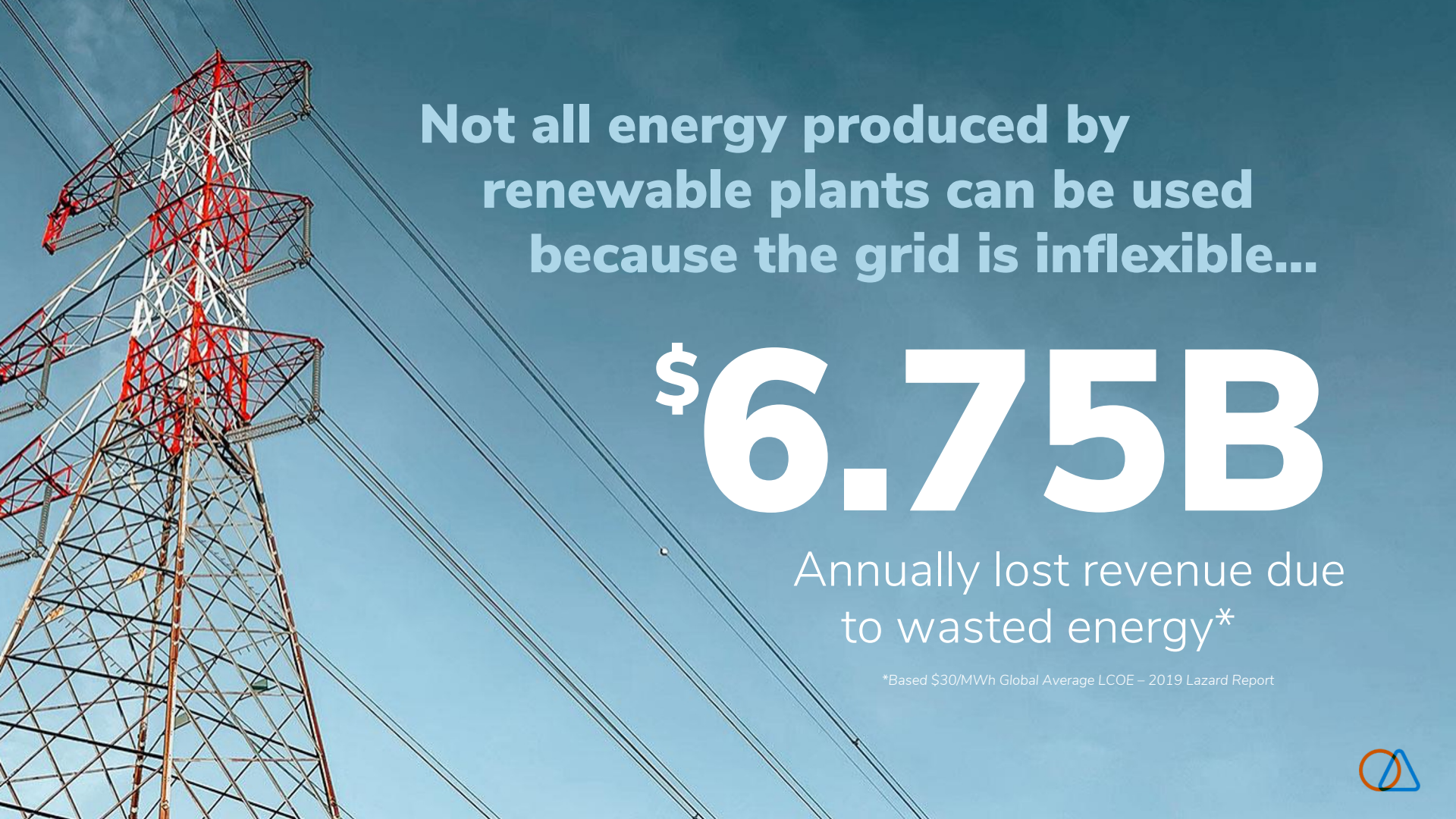
All forms of renewable energy are growing faster than ever

- Hydro
- Ocean
- Bioenergy
- Geothermal
- PV Utility-Scale Systems
- PV Distributed Systems
- Concentration Solar Power
- Offshore Wind
- Onshore Wind
- Renewables Dedicated to H2 Production



Source: IEA.org





**Not all energy produced by
renewable plants can be used
because the grid is inflexible...**

\$6.75B

Annually lost revenue due
to wasted energy*

*Based \$30/MWh Global Average LCOE – 2019 Lazard Report





**The future of
renewable
energy is
computing...**



If it's used to perform...

Artificial
Intelligence

Machine
learning

Natural language
processing

Bitcoin
Mining

There is a growing demand for computing power that will account for 20% of global energy consumption by 2030. What if we could build data centers that could buy excess renewable energy that would otherwise be wasted?

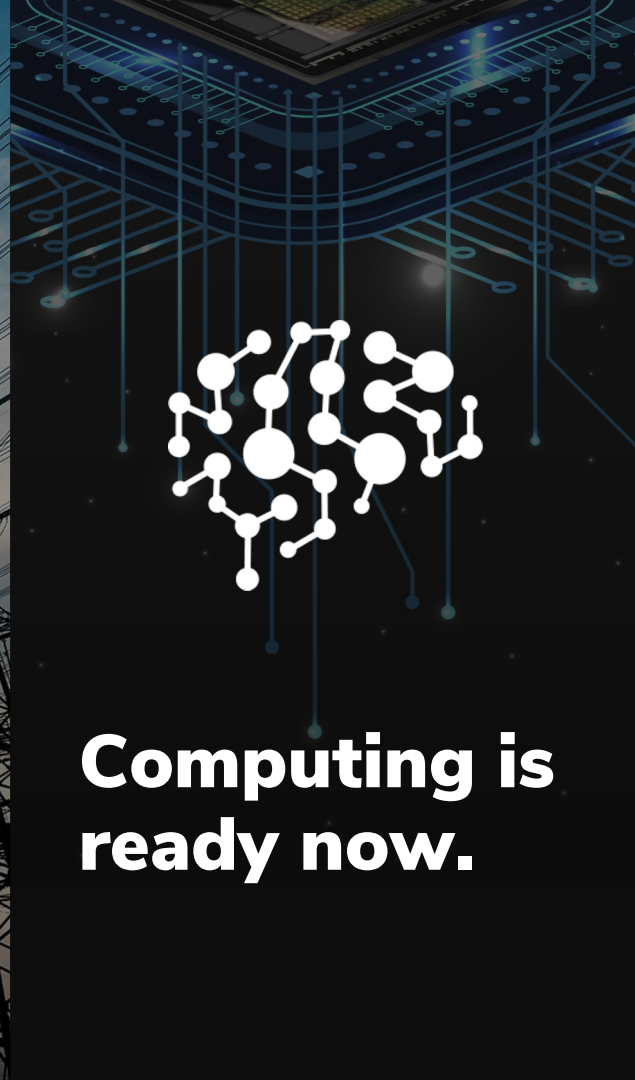




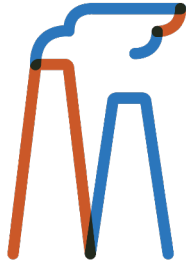
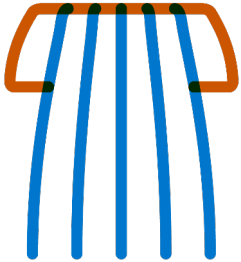
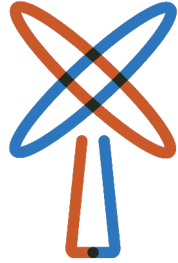
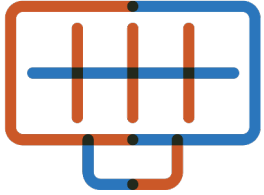
Storage is not yet sufficiently scalable...



Transmission upgrades face too many challenges & take too long...



Computing is ready now.



**Excess energy from
renewable sources**



**High Performance
Computing**



Company Overview

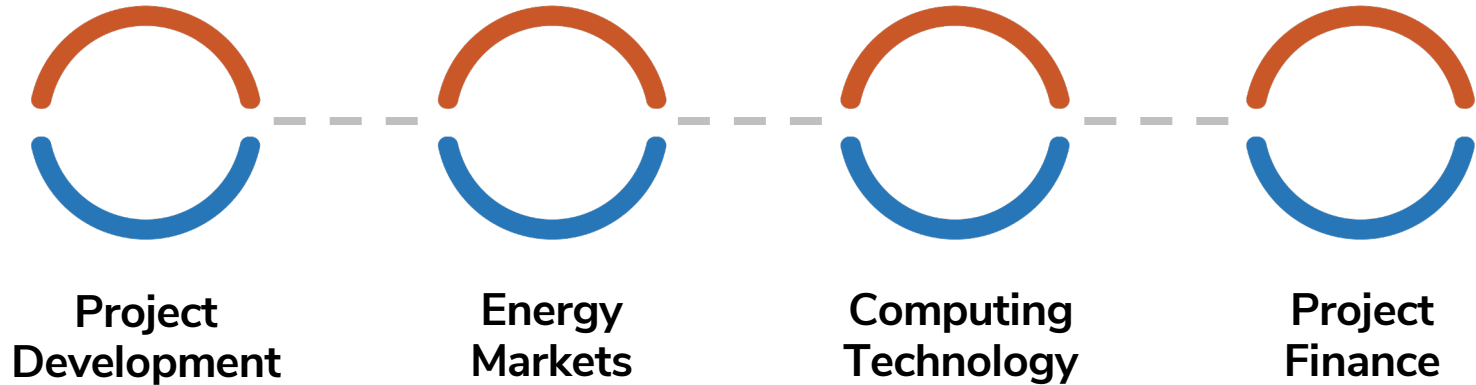




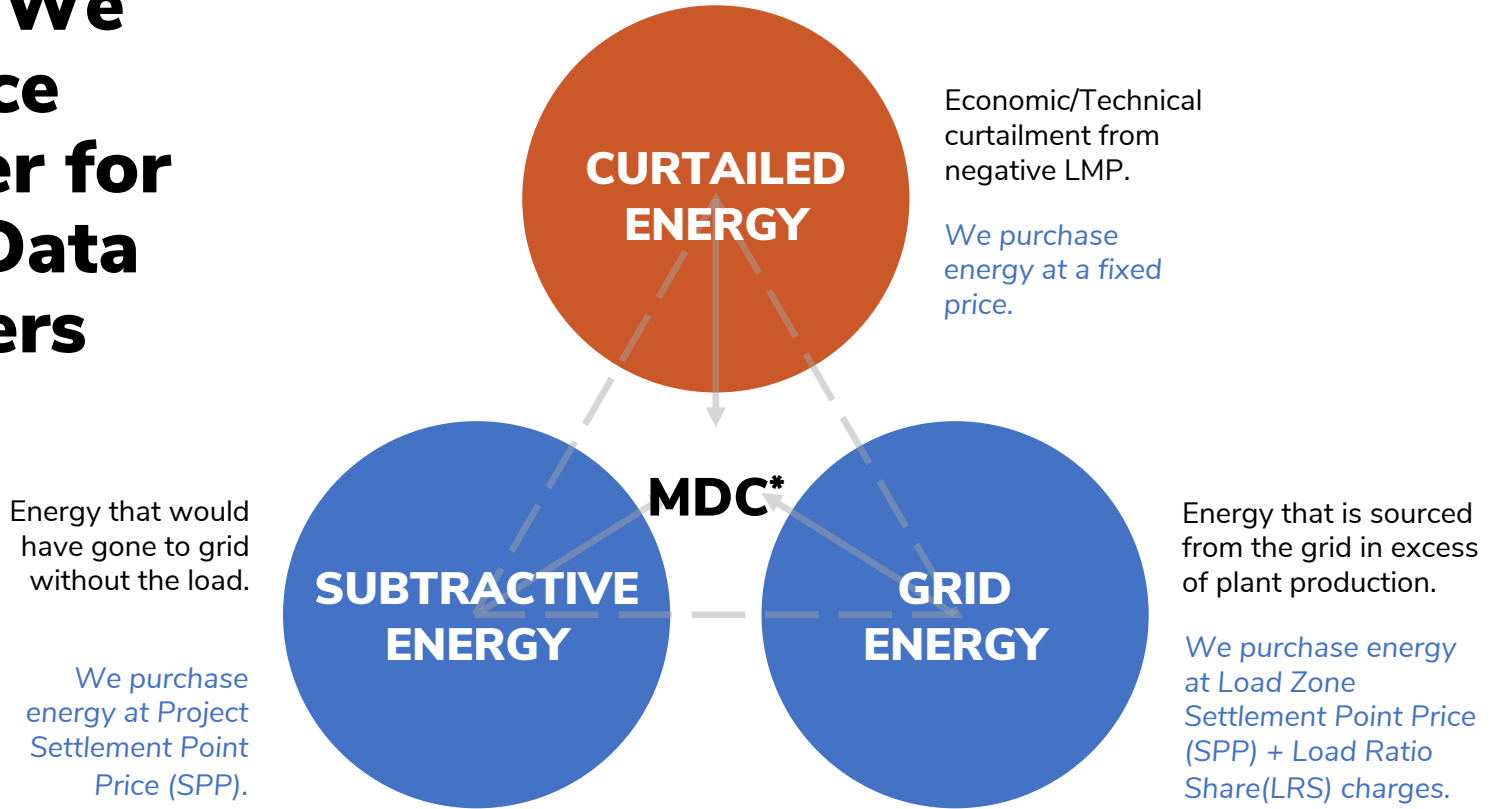
Soluna develops data centers co-located with renewable power plants, turning their wasted energy into sustainable computing resources.

Why Soluna

Power producers and computing partners choose Soluna because of our **four pillars of expertise**



How We Source Power for Our Data Centers



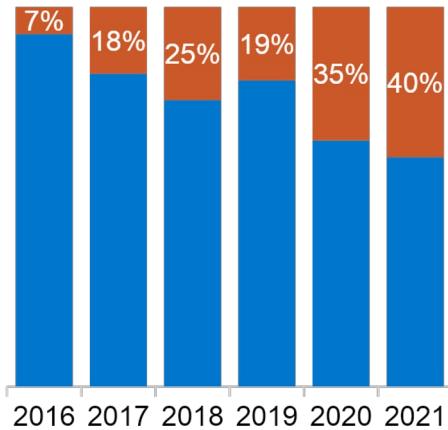
* Soluna Modular Data Center.



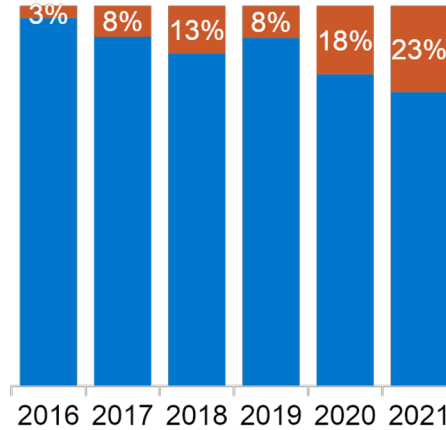
How We're Solving the Wasted Energy Problem

We build data centers that consume curtailed renewable energy

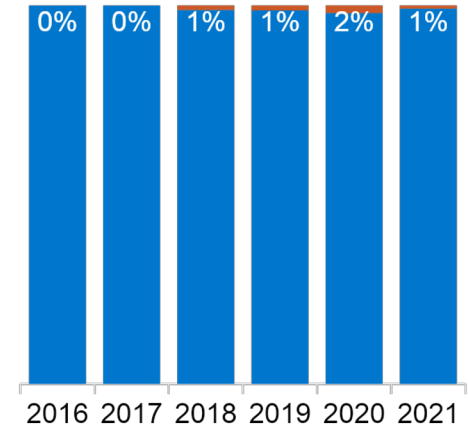
150 MW Wind Farm



+ 50 MW Data Center



+150 MW Data Center

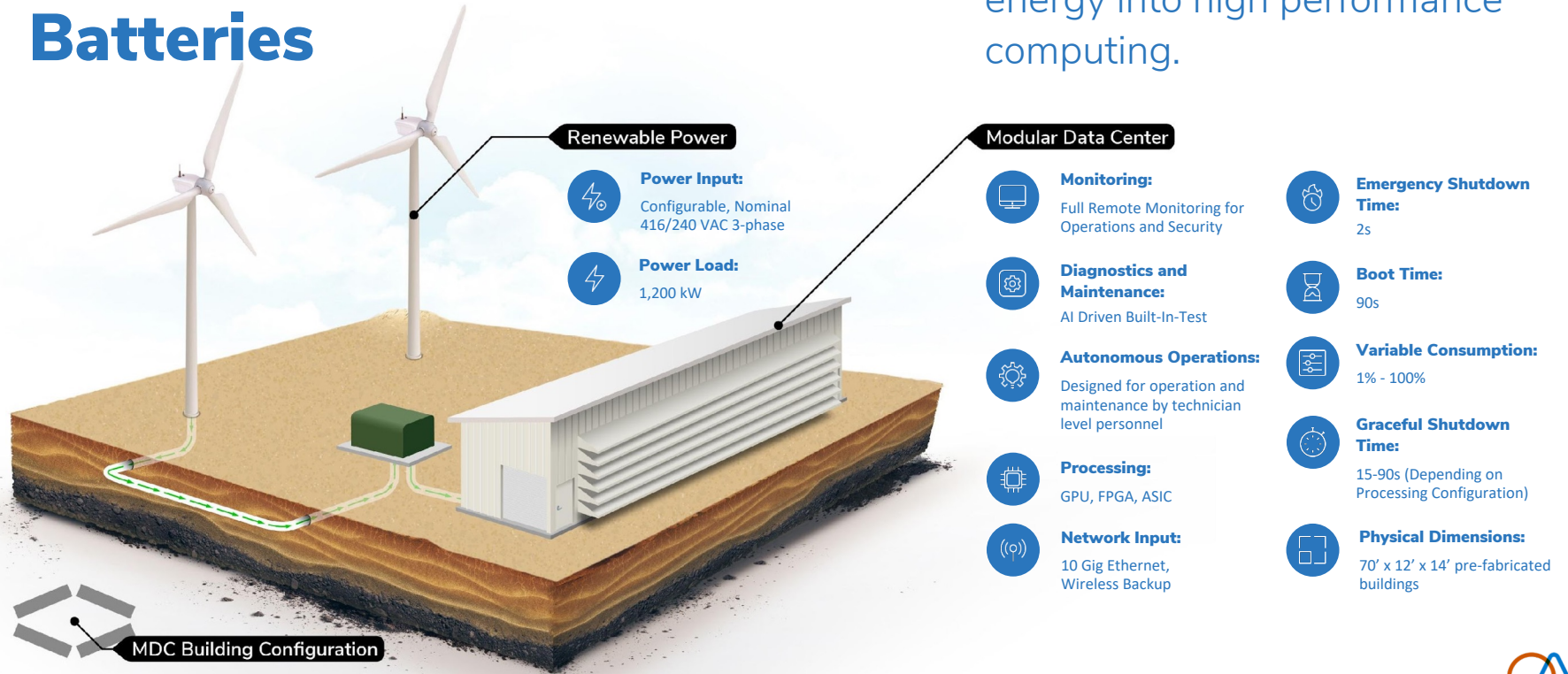


■ Metered Generation ■ Curtailed Energy



Our Data Centers Are More Productive Batteries

Purpose-built to efficiently convert curtailed renewable energy into high performance computing.



MaestroOS Is Our Force Multiplier



Control

Enhancing equipment lifespan and reducing failures through multiple redundancies.

Complete automation of fans, miners, PDUs, power infrastructure, and network.

Implementing robust and redundant computing systems at both the MDC and site levels to eliminate single points of failure.

Utilizes a cloud-based simulator for pre-deployment testing of software and algorithms.

Operations

Real-time tracking of miners, PDUs, networking equipment, and power infrastructure enables centralized site management and remote diagnostics.

Comprehensive diagnostic and alerting system empowers operators to swiftly detect issues and take immediate action.

Pinpoints the exact location of miners and equipment, facilitating the identification of anomalies quickly.

Power

Extensible architecture allows for quick adaptation of algorithms, facilitating seamless integration with various grid and behind-the-meter configurations.

Capable of accepting multiple grid and power stimuli to feed the algorithm.

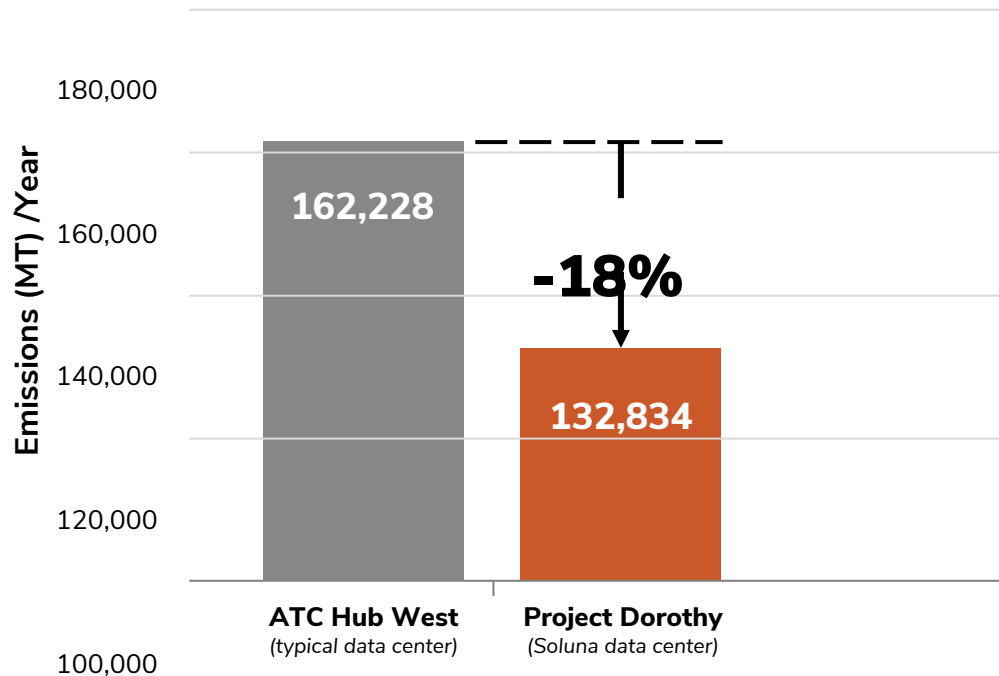
Achieves 99% curtailment in less than 60 seconds.

Achieves full power restoration within 8 minutes.



**Our data centers
are 18% greener
than typical data
centers**

Net Carbon Emissions April 2022 – March 2023



Source: RESurety



How Soluna Makes Money

- Current revenue sources
- Future revenue sources

Prop Bitcoin Mining

- Soluna or JV owned Bitcoin mining machines
- Bitcoin sold daily
- Soluna provides Managed Infrastructure Services

Grid Ancillary Services

- Compensation to act as behind-the-meter flexible load for the grid
- Paid on \$ / MWh basis by Utility or Grid Operator

Hosting for Bitcoin Miners

- Third-party machines hosted at Soluna Data Centers
- Soluna provides Managed Infrastructure Services

High Performance Computing

- GPU Cloud – AI/ML, simulation, visualization, predictive analytics, and deep learning
- GPU machines could be hosted or owned by Soluna at Projects

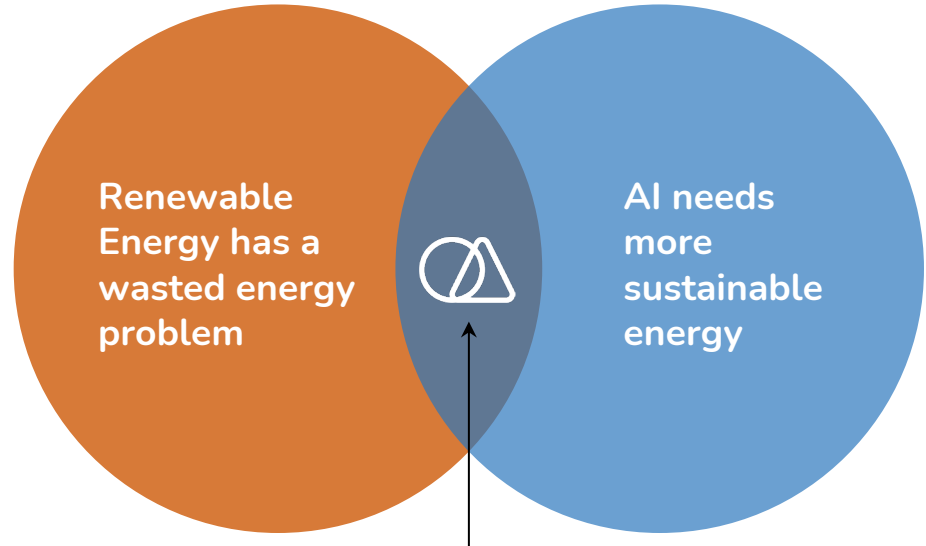


Renewable Computing

Sustainable. Scalable. AI.

There is a growing demand for computing power that will account for **20% of global energy consumption by 2030.**

Generative AI | Machine learning | Natural language processing | Scientific computing



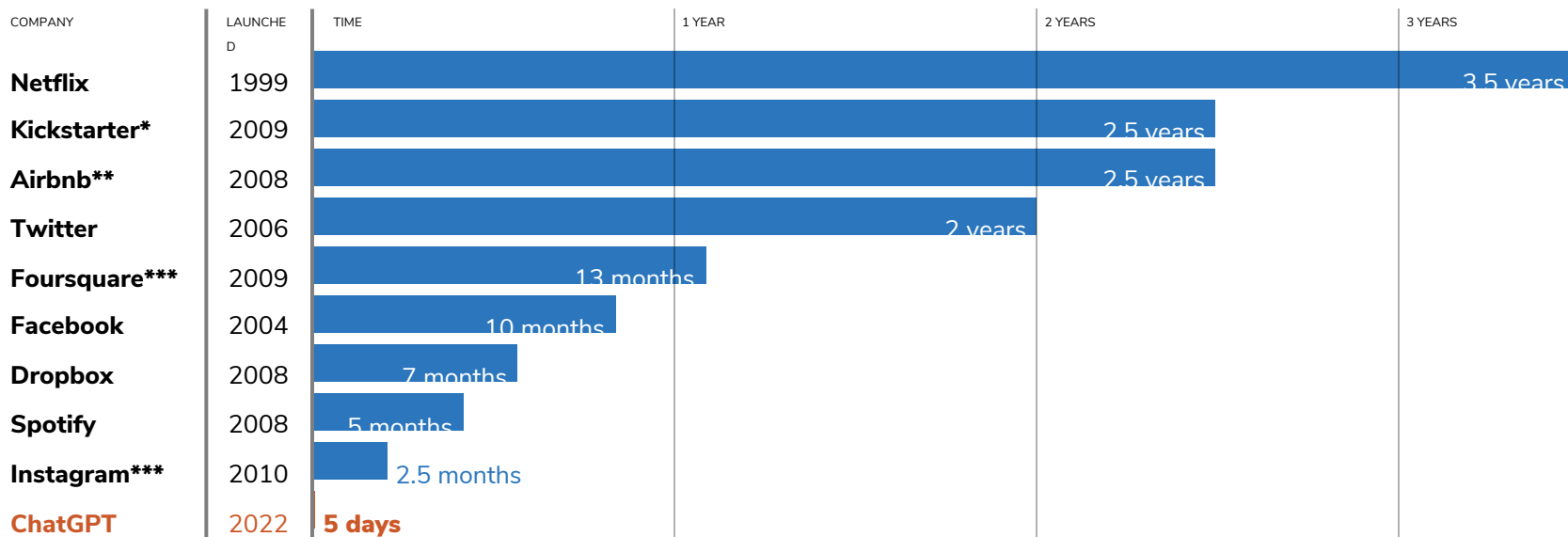
SOLUNA
CLOUD™

Sustainable Infrastructure
for Scalable AI



AI is the fastest growing technology today

Time it took for selected online services to reach one million users



* one million backers: ** one million nights booked. *** one million downloads
Source: Company announcements via Business Insider/LinkedIn/Statista



AI's hidden challenges

AI is hungry

AI computing's energy density and space needs exceed current hyperscale data center capabilities. Energy demand for AI is projected to exceed the entire current data center levels. Some estimates put it at 20-30GW.

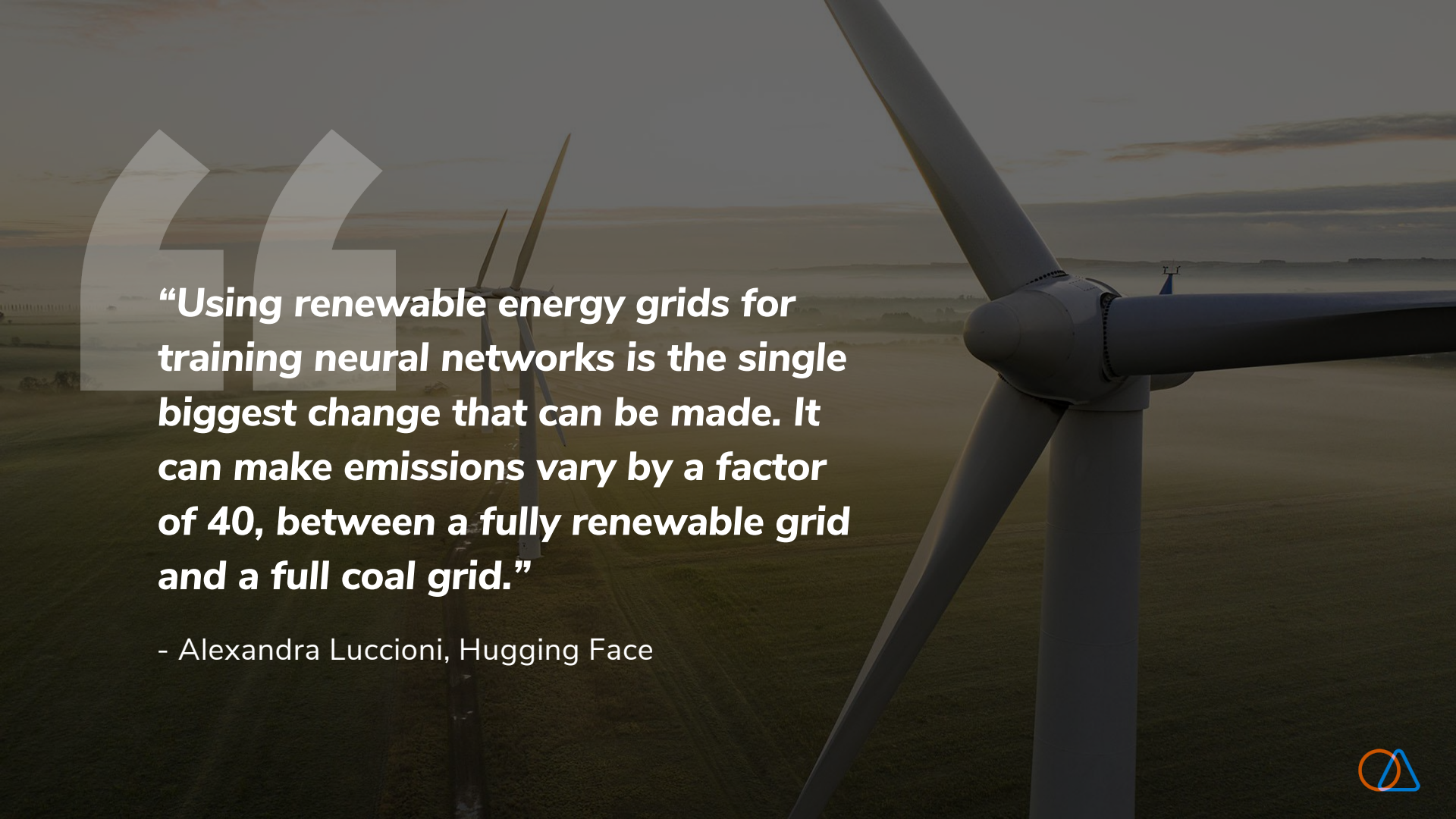
AI is thirsty

Traditional data centers, particularly those utilized for AI, exhibit substantial water consumption. Microsoft used an estimated equivalent of 2.8 Million glasses of water to train ChapGPT-3 due to the current cooling design of traditional data centers.

AI is dirty

Traditional data centers are responsible for 2% of overall U.S. greenhouse gas emissions. GPT-3, Gopher, BLOOM, and OPT had more than 900 tonnes of carbon emissions.





“Using renewable energy grids for training neural networks is the single biggest change that can be made. It can make emissions vary by a factor of 40, between a fully renewable grid and a full coal grid.”

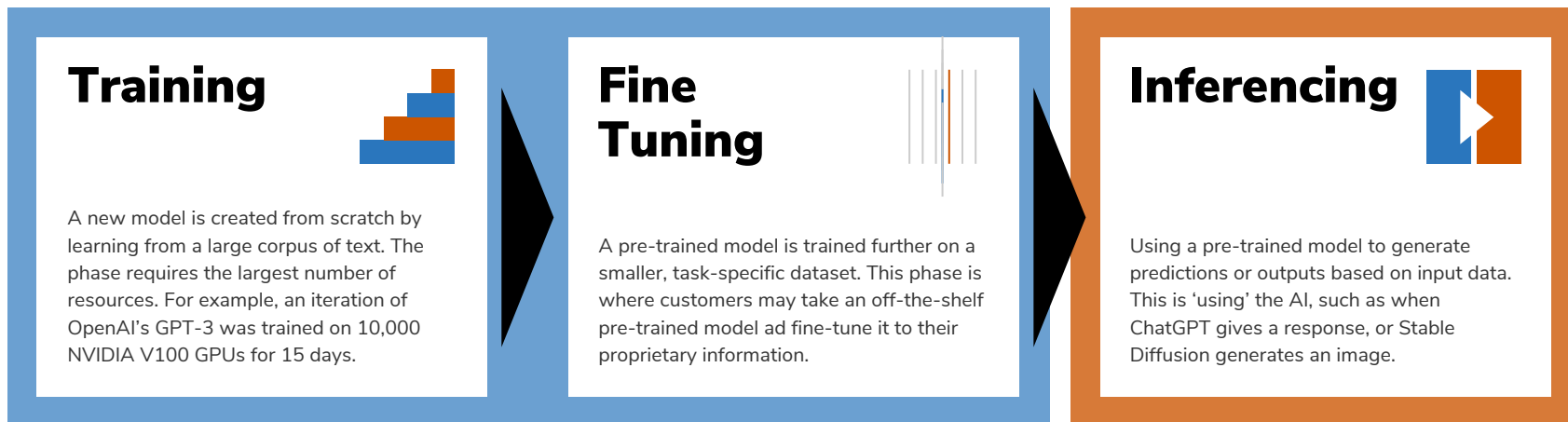
- Alexandra Luccioni, Hugging Face



The Lifecycle of AI

Gen AI is batchable: Parts of the Generative AI lifecycle are perfect computing applications for co-location with renewable power plants, because they are inherently batchable.

- Batchable process
- Real-time process



Soluna's Helix Data Centers are designed for AI

Purpose-built to efficiently convert curtailed renewable energy into batchable computing



Direct Liquid Cooling



Green Power



Plug & Play



Scalable



Zero Water



**We have a massive pipeline
of wasted renewable energy
to power high performance
computing.**



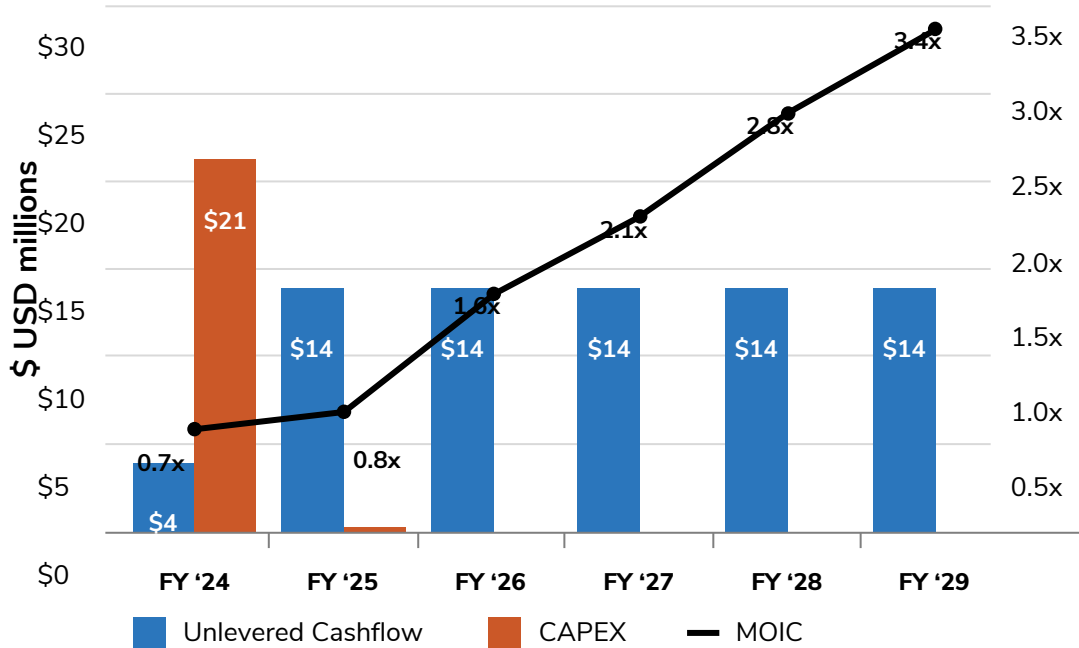


Financial Highlights



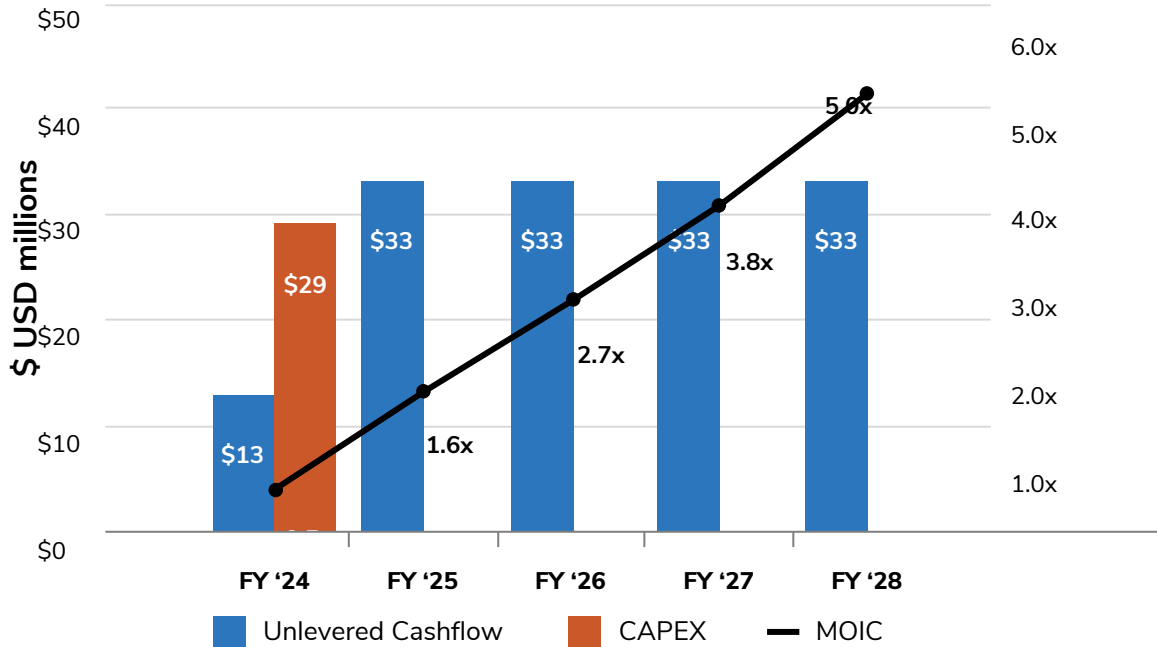
Data Center Economics | Bitcoin Hosting

Compute (MW)	48.0
Construction timeline	6 months – 50% complete 12 months – 100% Complete
Total Capex	\$21.6mm
Run Rate EBITDA	\$14.0mm
MOIC / IRR	3.4x / >45%
Payback (Months)	~27 Months



Data Center Economics | Generative AI

Compute (MW)	1.0
Construction timeline	6 months – 25% complete 9 months – 100% Complete
Total Capex	\$29.3mm
Run Rate EBITDA	\$33mm
MOIC / IRR	4.96x / >50%
Payback (Months)	~12 Months



Key Operating Metrics¹

NASDAQ

SLNH / SLNHP

MW MANAGED

75 MW ▶ 291 MW³

INSTALLED HASHRATE

2.6 EH/s²

AVERAGE POWER COST

<\$30 / MWh

CURTAILED ENERGY MONETIZED

4,003 MWh

POWER USAGE EFFECTIVENESS (PUE)

1.01

BITCOIN MINERS DEPLOYED

23,655²

AVERAGE J / TH/s

~30 J / TH/s

(1) All numbers are as of October 31st, 2023.

(2) Includes a mix of Prop Miners and Hosted Miners.

(3) Sophie (25 MW - operational) + Dorothy 1 (50MW - operational) + Dorothy 2 (50 MW – In Development) + Kati (166 MW – In Development)



We have a growing pipeline of projects

Data Centers & Pipeline

25MW

Sophie

Operating



100MW

Dorothy

50MW
Operating



166MW

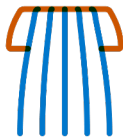
Kati

Design &
Development*



2GW+ long-term pipeline with large IPPs and infrastructure funds in the US and beyond

Powered by



*Design – design and development activities with the IPP underway and submission to ERCOT LFL started.



2023 Corporate Focus On Track

2023

Energize Dorothy

Shift flagship site from construction to operations. Energize 50MW (1A and 1B).

Sign JV Partnership with Navitas Global for Prop Mining. Sell down portion of 1A to Spring Lane Capital.

Fill 1A with 25 MW of strategic hosting partners.

Cash Flow+

Sign 50MW of hosting at Dorothy and Sophie, ramp 25MW of Prop-mining at Dorothy.

Implement cost cutting measures to achieve positive cashflow from operations in second half of 2023.

Expand Flagship

Target the development of up to 50 MW of Dorothy 2 project through project-level partnerships.

Leverage existing power infrastructure investments. Shoot for energizing in Q2 2024.

Grow Pipeline

Sign term sheets for 100MW of additional behind-the-meter projects with Renewable Power Producers.

Advance the projects through the ERCOT process.



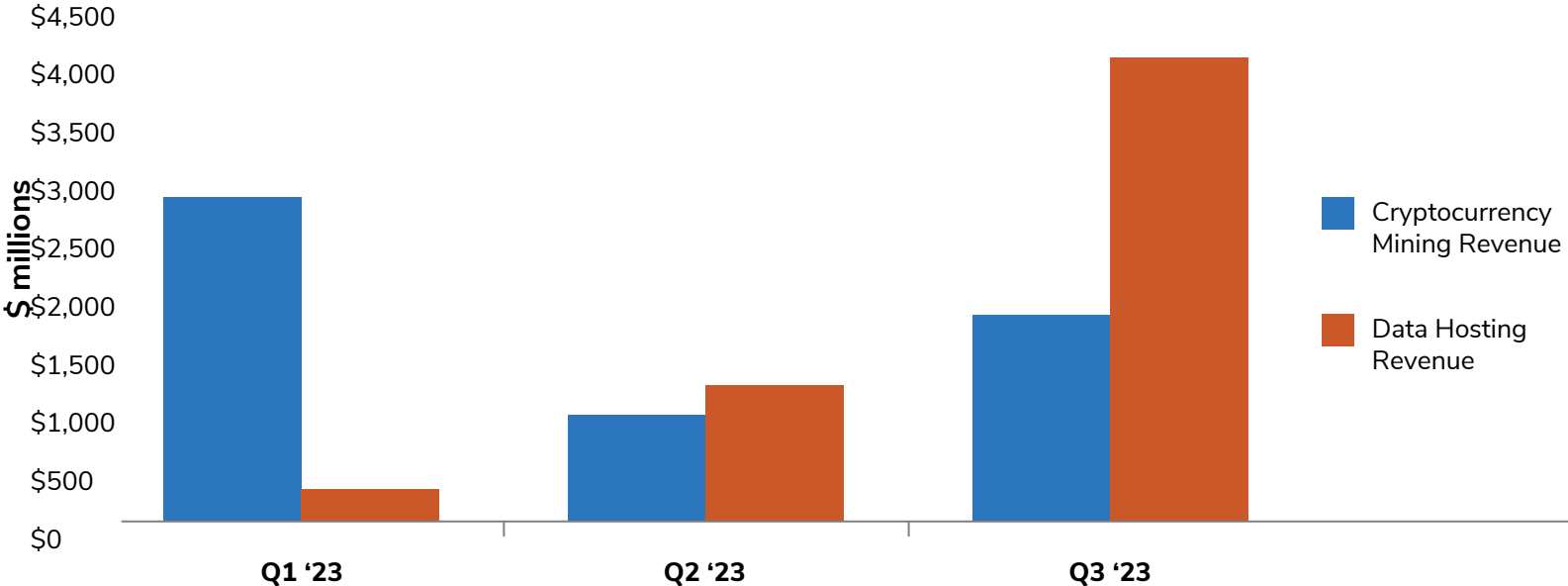
Quarterly Financials YTD 2023

Quarterly Financials	Q1 23	Q2 23	Q3 23	YTD 23
Cryptocurrency Mining Revenue	2,796	915	1,786	5,497
Data Hosting Revenue	286	1,153	4,011	5,451
Total Revenue	3,082	2,068	5,797	10,948
<i>% Change in Revenue</i>		-33%	180%	
Cost of Cryptocurrency Mining Revenue, excl. Depreciation	2,252	1,160	1,040	4,452
Cost of Data Hosting Mining Revenue, excl. Depreciation	272	759	2,150	3,181
Cost of Revenue - Depreciation	625	539	1,200	2,364
Total Cost of Revenue	3,149	2,458	4,390	9,997
Gross Profit	(67)	(390)	1,407	950

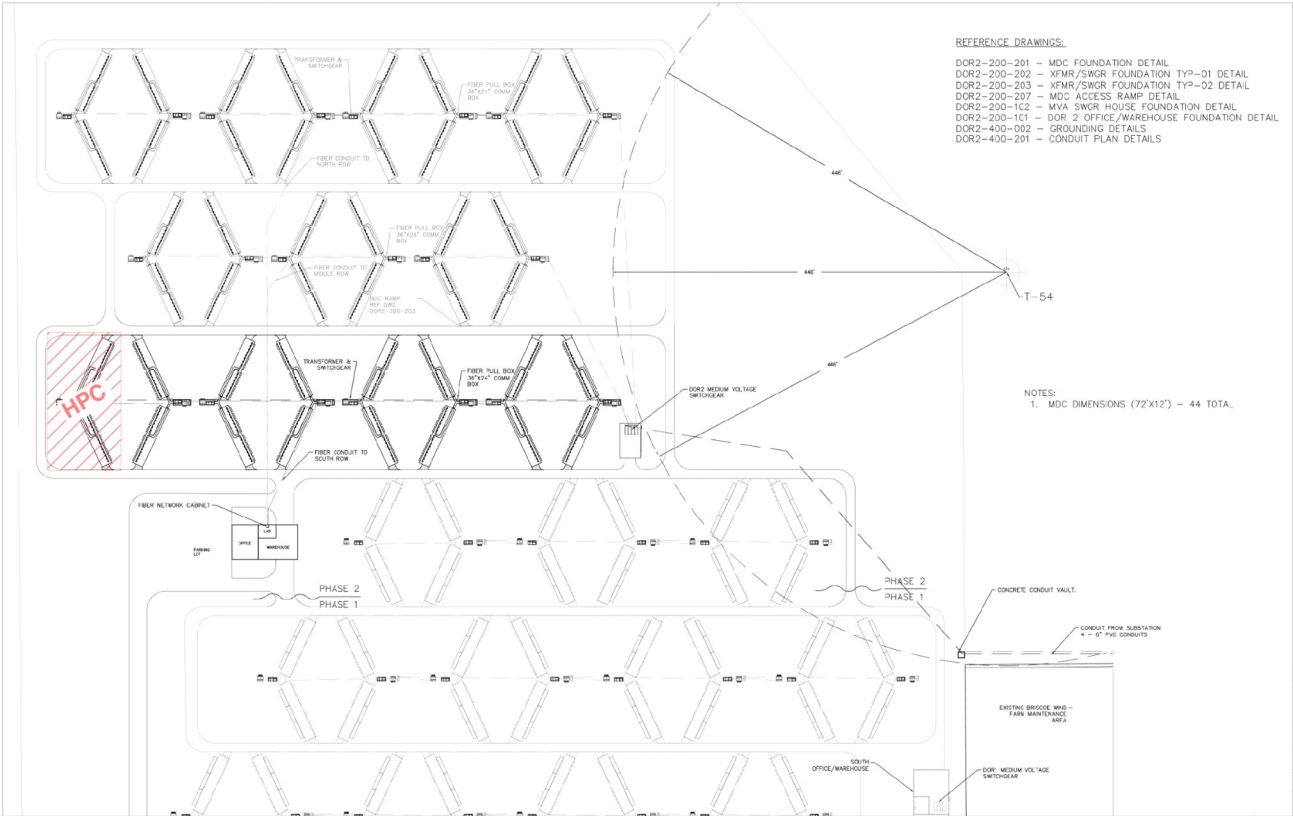
Certain prior quarter amounts have been reclassified for consistency in the current quarter presentation.



Quarterly Financials YTD 2023



2024 Is The Year of AI for Soluna Starting with Helix at Project Dorothy 2





**The future of
renewable energy
is computing.**

Connect With Us



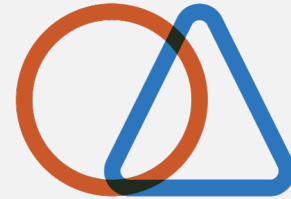
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