

## "Disrupting a Multi-Billion \$ Material Handling Sector"





## Safe Harbor Language

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## Who is Flux Power?

- Designer, developer, manufacturer, and seller of lithium-ion battery packs that replace inefficient and environmentally undesirable lead-acid packs in industrial equipment
- Unique modular design and proprietary software lends itself to tremendous flexibility
- Investment and engineering talent have yielded unique lithium-ion solutions that offer compelling economic advantages as well as environmental benefits
- Over 5 years of relationship building has positioned Flux Power for significant revenue growth and margin improvement in 2021-2022
- Relocated this past year to 64,000 sq ft facility with production capacity for \$100M revenue annually



Flux Power LiFT Pack



ISO 9001 Certified Assembly Facility in Vista, CA



## Flux Power in the Current Environment

#### Enabling the paradigm shift to an electrified world for material handling

- Decade of experience in design and packaging lithium-ion battery packs for motive applications
- Products available for Class 1, 2, and 3 forklifts, airport ground support equipment (GSE), and natural product line extensions including solar energy storage for electric vehicle (EV) charging and warehouse robotics

### **Early Stages of Multi-Billion Dollar Market Opportunity**

- Technology and economic advantages open a \$2.5B dollar North American market\*
- Lithium-ion value proposition: lower total cost of ownership via better performance, longer life, greater energy efficiency and no water maintenance versus legacy lead acid batteries

#### **Market Validation with Fortune 500 Customers**

- UL Listing & OEM approvals provide validation of performance and safety
- Fortune 500 early adopters purchasing Flux Power LiFT Packs include: PepsiCo, Frito-Lay. Mondelez, Caterpillar and Delta Air Lines

### **High Growth with Margins Expanding**

- Ramping production & sales FY'19 (June YE) revenue grew 130% to \$9.3M; FY'20 revenue grew more than 80% to ~\$16.8M; rapid growth anticipated to continue with impact of full product line rollout and high sector growth
- Expect continued gross margin expansion through continued focus on volume purchasing, cost downs, design optimizations, sourcing changes, and manufacturing efficiencies post launch of new product lines
- Expanded facility to 64,000 sq. ft. to support up to \$100M of annual production



A Foundation Built for Fortune 500 Electrification L48 (Class 1 3-Wheel Forklift) launched Roll out full line of UL Listed packs Introduce next-generation BMS FY20 **Full Suite of Energy** C-Series (lowest \$/kWh product) 2Q20 **Storage Products** M24 (Class 3 End Rider) launched 1Q19 M36 (Class 2 Narrow Aisle) launched 4Q18 X-Series (Class 1 Counterbalance) launched Airport GSE Pack shipped first two large orders S-Series (Class 3 Walkie LiFT Pack) UL Listed (Only pack tested & approved by major OEMs: Toyota, Raymond, and Crown Equipment) 2016 Focus shifted to industrial market 2014 2013 2009 S-Series (Class 3 Walkie LiFT Pack) introduced Company founded with focus on EV battery packs



# Competing Power Sources for Equipment

#### Lithium-ion

- High volume, multi-shift applications
- Five competitors of comparable revenue
  - Only one has UL Listings and one other has private label with OEM
- Flux Power was the first mover in the motive lift space and has over 7,000 packs in the field

#### Lead Acid

- Low purchase price; single shift; low usage
- Requires regular water maintenance
- Requires monthly lead acid reporting by government

#### IC: Propane

- Higher maintenance cost; emissions preclude certain industries
- Sustainability issues

#### Fuel Cell

- High capital investment; tailored for 5-minute charging; special handling and maintenance required for hydrogen; requires lithium for use
- Caters to companies like Amazon and Walmart having 7X24 high volume with 200 or more forklifts on site



## Large Addressable Market

- The Industrial Truck Association (ITA) estimates that ~260,000 lift trucks were sold in North America in 2018
- \$2.5B addressable annual market for electric trucks; 40% of forklift sector is internal combustion (primarily propane)
- Sales are building for fleets converting from propane (IC) to lithium-ion to address environment and maintenance issues
- We believe lithium-ion currently has 2% market share
- Flux Power LiFT Packs "drop-in and play" easily with most forklifts for lead acid replacement business

Forklift Type	Class	Description		
	Class 1	Sit-on / Counterbalance		
Electric Trucks	Class 2	Narrow Aisle	S	Sec
	Class 3	Walkie Pallet	fo	OCI
	Class 3	End Riders / Center Riders		
Internal	Class 4	IC, Solid Tires	F	ot
Combustion (IC) Trucks	Class 5	IC, Pneumatic Tires	C	on
Tractors / Rough	Class 6	Electric and IC Tractor / Trailers		
Terrain Trucks	Class 7	Rough Terrain Forklift Trucks		
*OSHA Classifications			1	

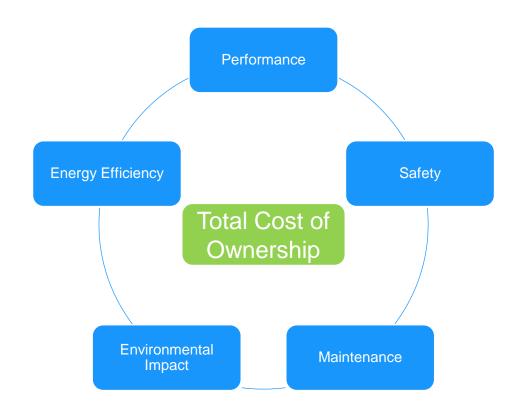
\*OSHA Classifications IC includes: propane, gasoline, diesel,



Potential conversion



## Customers Want Lower Cost and Higher Performance



# Flux Power LiFT Packs eliminate forklift operation pain points, with lower total cost of ownership

Attribute	Lead Acid Batteries	Flux Power Lithium-Ion "LiFT Packs"
Performance	Power & runtime Limitations	Run longer shifts, maintain power
Lifespan *	Shorter cycle life	5 – 10 year warranties
Efficiency **	Less efficient energy storage	More efficient energy usage than lead acid
Maintenance ***	Must water; requires multiple packs/truck	Single pack/truck, opportunity charge
Environmental	Acid; produces offgasses during charge	Environmentally sealed for life, no risk of spills
Cost	Lower initial purchase cost	Lower total cost of ownership

<sup>\*</sup> Lithium-ion has 7-year life, Argonne National Labs Study

<sup>\*\*</sup> Lithium chemistry wastes less energy per Battery University

<sup>\*\*\*</sup> Requires no water maintenance



# 5-Year Cost Savings: Lithium-ion vs Lead Acid

Battery Costs	Le	ad-Acid	N	I-Series			Net
Price per Battery	\$	4,000	\$	12,000		S	avings
Expected lifetime (years)		6		10			
Batteries per unit		2		1			
Total batteries in 5 years		1.7		0.5			
Number of Trucks in fleet		10		10			
Total 5-Year Battery Cost	\$	66,667	\$	60,000		\$	6,667
Operating Costs							
Watering System Cost	\$	300	\$	-			
H₂O Maintenance (mins/wk/bat)		2		0			
H <sub>2</sub> O Maintenance Rate (\$/Hr)	\$	60	\$	-			
Staff Labor Rate (\$/ Per Hour)	\$	20	\$	-			
Change-out time (mins)		5		0			
Change outs/week/truck		7		0			
Total Staff Labor-hrs/week		6		0			
Total 5-Year Operation	\$	36,167	\$	-		\$	36,167
<b>Energy Savings</b>					_		
Energy Cost (kWh)		\$0.14					
Efficiency Gain		40%					
Battery Voltage (V)		36					
Battery Capacity (Ah)		400					
8 hour shifts per week		14					
Total 5-Year Cost	\$	51,368	\$	30,821		\$	20,547
		Metric To	ns o	f CO <sub>2</sub> Save	d:		109
Warehouse Space							
Cost per square foot per month		\$0.30					
Square footage saved		800					
Total 5-Year Cost	\$	14,400	\$	-		\$	14,400
5-Year Total	\$	168,601	\$	90,821		\$	77,780
Annualized Total	\$	33,720	\$	18,164		\$	15,556

### "End Rider Fleet" (10 units):

Battery savings \$6,667

• Operating savings \$36,167

Energy savings \$20,547

• Warehouse space \$14,400

• 5-Year Total Savings \$77,780

Percent Savings vs Lead Acid 46%

## **Environmental Impact:**

- 109 tons of CO<sub>2</sub> Saved
- No EPA monthly lead acid reporting
- No acid spills in warehouse



# Fortune 100 Manufacturing Company ROI

Battery Costs	L	Lead-Acid		/X-Series		Net
Price per Battery	\$	6,500	\$	22,000		Savings
Expected lifetime (years)		5		7		
Batteries per unit		3		1		
Total batteries in 5 years		3.0		0.7		
Number of Trucks in fleet		80		80		
Total 5-Year Battery Cost	\$	1,560,000	\$	1,257,143		\$ 302,857
Operating Costs						
Watering System Cost	\$	300	\$	-		<u> </u>
H <sub>2</sub> O Maintenance (mins/wk/bat)		11		0		
H <sub>2</sub> O Maintenance Rate (\$/Hr)	\$	60	\$	-		
Staff Labor Rate (\$/ Per Hour)	\$	35	\$	-		
Change-out time (mins)		22		0		
Change outs/week/truck		21		0		
Total Staff Labor-hrs/week		616		0		
Total 5-Year Operation	\$	5,843,100	\$	-		\$ 5,843,100
Energy Savings						
Energy Cost (kWh)		\$0.08				
Efficiency Gain		50%				
Battery Voltage (V)		36				
Battery Capacity (Ah)		600				
8 hour shifts per week		19				
Total 5-Year Cost	\$	478,034	\$	239,017	L	\$ 239,017
		Metric To	ons	of CO <sub>2</sub> Save	d:	2,223
Warehouse Space						
Cost per square foot per month		\$0.30				
Square footage saved		0				
Total 5-Year Cost	\$	-	\$	-		\$ -
5-Year Total	\$	7,881,134	\$	1,496,160		\$ 6,384,974
Annualized Total	\$	1,576,227	\$	299,232		\$ 1,276,995

### Class I Forklifts (80 units)

Battery savings \$0.3M

Operating savings \$5.8M

• Energy savings \$0.2M

• 5-Year Total Savings \$6.3M

Percent Savings vs Lead Acid 81%

### **Environmental Impact**

- 2,000+ tons of CO<sub>2</sub> Saved
- No EPA monthly lead acid reporting
- No acid spills in warehouse

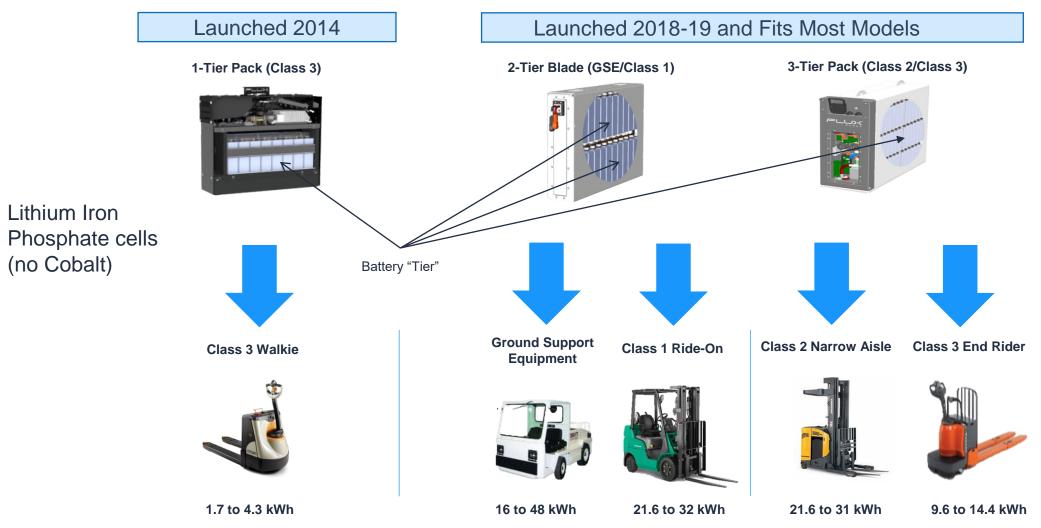


# Full Product Line for Large Fleets

Equip	ment	Flux Power Product		Description
	Class 3 Walkie		S8 & S24 LiFT Pack	High volume workhorse
	Class 3 End / Center Rider		M24 LiFT Pack	Market volume similar to Walkies 4X energy of Walkie
	Class 2 Narrow Aisle		M36 LiFT Pack	Narrow Aisle, High Growth 10X energy of Walkie
	Class 1 3-Wheel & Class 2 Turret Truck		L48 LiFT Pack	8X energy of Walkie
	Class 1 Counterbalanced		X-Series LiFT Pack	12X energy of Walkie
	Airport GSE		GSE Pack	Modular design similar to Class 1 14X energy of Walkie
Other Industrial Applications	Solar Storage, AGV, etc.	STATE OF THE PROPERTY OF THE P	C-Series	Lowest \$/kWh product 2-6X energy of Walkie



# Modular Designs Enable Nimble Product Development





# SkyBMS Telematics: Transforming Warehouse Management

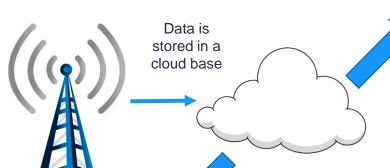
**Access to Fleet Management and Diagnostics Anywhere** 



Data is sent to telematic units



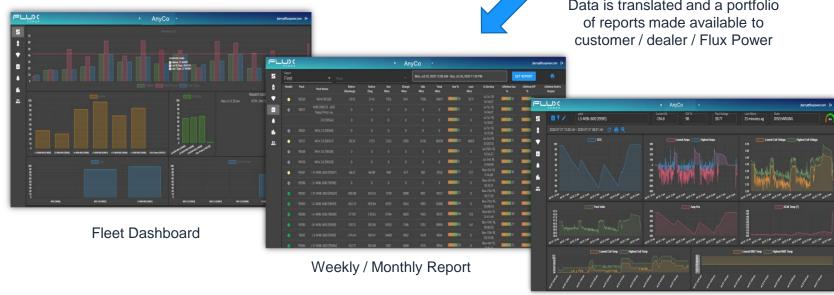
Data is transmitted via cellular / Wi-Fi connection



Alerts via text / email lets users know when a charge is needed

Data is translated and a portfolio of reports made available to

- Powerful reporting suite by battery / fleet / customer
- Built on AWS backbone facilitates massive data expansion
- Custom alerts tailored for End User. Dealer, or Flux Power support personnel
- Able to push "Hot Updates" in real time
- Foundation in place for Lease and "kWaas" (power as a service) sales models



Battery 'Deep Dive'



# Airport Ground Support Equipment (GSE)

 GSE battery packs utilize the same modular design as our large products and represents a natural product extension to forklift applications

#### Recent industry trends:

- Recent increase of "Green Initiatives" at airports favors a lithium solution
- Delta Airlines announced \$1B spend to become carbon neutral in 10 years
- Despite COVID-19 related slowdown with airlines, airline cargo demand and GSE equipment OEMs continue pacing

#### Sales are getting traction:

- Major US-based global airline: Buying regular tranches of packs beginning in 2018; has reputation for leader in adopting new technology
- Initial work and sales with GSE OEMs for install on cargo loaders, baggage loaders, and belt loaders for their new equipment sales
- Have completed initial successful trials with other major US airlines (at LAX, Charlotte, Atlanta, Houston, and Seattle), along with initial sales to global GSE service provider







# **Emerging New Products**

### Solar Energy Storage

- Initial sales, partnering with OEM "Envision Solar International" (Symbol: EVSI), to supply our lithium-ion packs for their solar EV charging stations
- Our solar energy storage product is a natural product extension
- Utilizes our modular design adapted for form and power requirements

#### Warehouse Robotic Solutions

- Recent initial sales for rapidly growing warehouse robotics
- Also a natural product extension of our modular design









# R&D and Manufacturing

### Proprietary designs including battery management system and telemetry

- Advanced features and capabilities have evolved from 6 years of material handling customer experience
- Five innovative features of our next generation BMS currently in patent process
  - State of the art data collection, analysis and custom reporting
  - Adaptable to many product lines and industry applications
  - Enables telemetry capability

### Designed to meet UL Listed certifications

- Third party validation of highest safety and durability standards; result of significant investment
- Flux Power is expected to have complete forklift product lineup with UL certification by Dec 2020
- UL testing and certification is expected to ensure all operational modes are addressed for safety and durability

### ISO 9001 Certified and \$100M Production Capacity

- Established process infrastructure to achieve consistent high levels of reliability and quality, including repeatable, reliable processes subject to annual certification
- 3 assembly lines capable of \$100M of annual production, launched June 2019







# Broad Sectors and Customers Being Served















Airport GSE **▲** DELTA



swissport **\*** 





## Multiple Sales Channels

### **OEMs**

- Have sold to a majority of the top 10 forklift OEMs
- Private label with a top five global OEM
- Formal Supply Agreements with three Fortune 500 OEMs

### **Equipment Dealers**

• Nationwide relationships with both OEM-affiliated & independent equipment dealers

## **Battery Distributors**

• Utilize regional Battery Distributors for sales and service

### **End Users**

- Direct sales to large End Users
- Fortune 50 company Global Supply Agreement



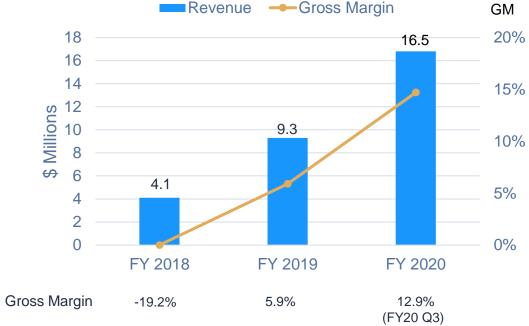
# Private Label Program with Large OEM

- OEM has given validation and support of Flux Power products and service
- Flux Power Walkie Pack is provided as a "private label" under OEM brand; launched April 2019
- Currently near completion developing a follow-on proprietary model for OEM new Class 3 forklift
- Flux Power will continue to serve all major lift equipment makes



# Strong Revenue Growth





- Continued revenue trajectory despite COVID-19
- Gross Margin expansion tracking to improvement plan

	Income S	tatement		
For the Fiscal Period Ending	FQ4/CQ2	FQ1/CQ3	FQ2/CQ4	FQ3/CQ1
(\$ Millions)	Jun 30, 2019	Sep 30, 2019	Dec 31, 2019	Mar 31, 2020
Total Revenue	3.0	1.9	3.6	5.1
Cost Of Goods Sold	2.8	1.8	3.3	4.4
Gross Profit	0.2	0.1	0.3	0.6
Gross Profit %	6.7%	6.1%	9.0%	12.8%
Selling General & Admin	2.2	2.2	2.2	2.6
R&D Exp	1.2	1.4	1.0	1.5
Other Operating Exp., Total	3.4	3.6	3.3	4.1
Operating Income	-3.2	-3.5	-2.9	-3.5
Net Interest Exp.	-0.2	-0.3	-0.4	-0.5
Net Income	-3.4	-3.8	-3.3	-4.0



# Gross Margin Expansion in Progress

Initiatives for gross margin improvement	Explanation
Next-Gen Battery Management System (BMS)	Consolidates PCBs; modular design to accommodate large packs
Cell sourcing & purchasing improvements	New cell supplier has automated factory for better quality & cost
Volume & sourcing efficiencies	Higher purchasing will lower unit costs
Assembly efficiencies & utilization	Continuous improvement of production line efficiencies
Unit pricing from new features/options	Adds: heater options, telemetry options, weight, dimensions
Achieve most of goal within 12 months	All initiatives now underway

Note: Currently have progression of improving gross margin with long-term goal > 30%



# Strengthened Capital Structure

		Impact of Recent PIPE and Debt Conversion				
	FY 2020 Qtr 3 (\$000)	Change (\$000)		Comment		
Assets						
Cash	106	<u>4,300</u>	$\rightarrow$	PIPE raise closed July 24, 2020		
Accts Rec	2,710					
Inventory	5,139					
Other Current	916					
Other LT	2,894					
<b>Total Assets</b>	11,765					
Liabilities						
Accts Payable	4,141					
Other current	2,076					
Other LT	4,853					
LOC debt	13,455	<u>(8,300)</u>	$\rightarrow$	Debt conversion closed June 30 and July 24		
Total Liab.	24,525					
Equity	(12,760)	<u>12,600</u>	$\rightarrow$	Increased Equity		
Total Liab & Eq.	<u>11,765</u>					



# Flux Power Financial Snapshot (Nasdaq: FLUX)

Closing Price (8/21/20):	\$5.11
52 Week Range	\$3.80 - \$15.00
Shares Out	11.4M
Revenue FY20 Q3-to-date	\$10.6M
Backlog as of August 21, 2020	\$4.3M
Borrowing on Inventory Lines of Credit *	\$6.1 M
FY 2019 Revenue (6/30/19 FY)	\$9.3M

<sup>\*\$</sup>Short-term notes. No long-term debt.



# Leadership Team



Ron Dutt: CEO, Director

Leadership at DHL, Ford Motor Company, Visa, Directed

Electronics and SOLA Int'l. Led companies from early stage
to >\$1B rev.



Chuck Scheiwe: CFO
Led accounting and financial planning operations of diverse
companies, Senstay Reptron & Teletrac and GreatCall, from
startup stage to high growth



**Jon Berry: COO**Senior roles at Alstom Transport, PACCAR UK, Clean Air Power and Pilkington Aerospace.



- Supplied Alt fuel components direct to Volvo trucks Sweden assembly line.



Tod Kilgore: Director of Sales

Led sales organization at Samina Corporation, Accurate

Solutions, Amistar Manufacturing and Marshall Industries.



Paulus Geantil: CTO

Expert in embedded systems, electrical design, robotics,
& system integration and has patents across various
technologies.



Tim Vaughan: Director of Engineering
Experienced automation and process improvement
Engineer, including medical and aerospace industries with
John Deere & Veridiam.



# Summary

### Lithium technology enables transformational industrial change

- Cleaner than traditional technologies and enables fleet electrification
- Coupled with on-board processors enables intelligent fleet control (telemetry)
- Lithium cells are technically accepted, and widely produced to exceptional quality

### Lithium-ion battery packs solve major productivity, cost, and environmental problems

- Longer battery life; no performance degradation; faster charge times
- Higher energy efficiency
- No maintenance; no acid spills; no off-gassing during charging; no products of combustion

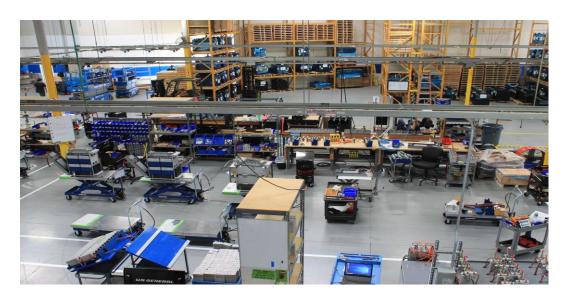
### Flux Power is leading the adoption of lithium-ion battery packs

- A solid foundation: full product line, scalable production, and customer satisfaction
- Our modular designs adapt easily for solar backup and robotic applications
- Product & management team vetted by global OEMs and fleet operators
- Implementation of gross margin expansion plan and fixed cost reduction / containment program
- Expanding OEM relationships with pending supply agreement with top ten global forklift OEM



# Thank you!





64,000 sq. ft. facility in Vista, CA



UN 38.3 Certified



