

Replace your standard four with an electric drive - one for one





Opportunity - Mission

Value Proposition

Revenue Model

Product (Technical Description)

Marketing Strategy

Beachhead Customers

Pricing Strategy - Timeline

Unit Economics

P&L Pro-Forma

6 Year Projection

Company Background

Funding

Appendix - Use of Funds



Opportunity:

Electric vehicles are experiencing an explosive growth, especially for more affordable motorcycles and e-bikes

In 2016, Electric Vehicle (EV) sales increased by 36% and Zero electric motorcycles' sales grew by 38%. As interest grows in sustainable technology, demand remains strong for 'Modern Classic' styled motorcycles such as the Honda CB1100, Triumph Bonneville and Harley-Davidson 883. Electric motors can match the performance and increase reliability of these 'classics,' especially for restoration or refurbishment projects.

Mission Statement:

Retro-fit standard motorcycles with an electric drivetrain

Retro-Electric Motors (RELEC) will produce and market a pre-engineered electric drive kit that can replace an inline four cylinder motorcycle engine – one for one, using existing mounting points, similar dimensions, and delivering similar performance.

Value Proposition

There are many advantages and values to be gained with an electric conversion drvetrain kit. Here are a few examples of what an alternative poweplant can mean to consumers:

\$0.01/mile (vs \$0.06/mile for gasoline at \$2/gallon)

Easy Installation

Housing with dimensions and appearance of an inline four.

Brackets to match mounting points for bolt on simplicity.

Performance Parity

51 hp and 74ftlbs of torque (vs CB450's 45hp and 27ftlbs)

135 mi range, 283.1 MPGe (vs CB450s 122 mi, 35 MPG)

Affordable

\$5,000 (vs a \$7-10k engine or \$11k+ Zero)

No Gasoline or Diesel needed!



To generate revenue through manufacturing and sale of pre-engineered electric drive kits using the following process:

Source Components

Motor, Batteries, Controllers

Fabricate the Assembly

- Housing, Wiring, Brackets and Mounts

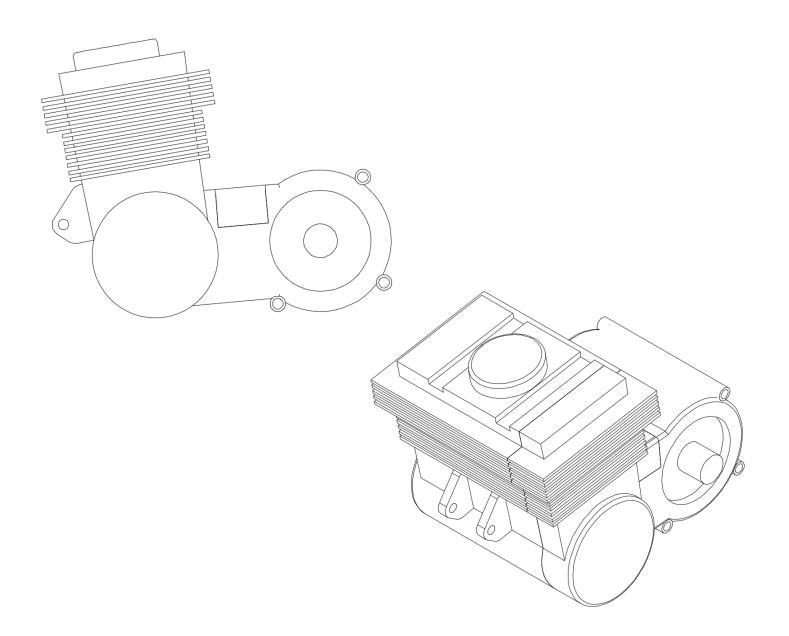
Market digitally and sell directly to builders and DIY mechanics

- Website, Facebook, eBay



RELEC Drive 1.0

- Lightweight Aluminum and Composite Case with OEM mounts (25lbs)
- Stainless Steel Mounting Brackets and Hardware
 (Honda CB450 and other models as requested)
- 51hp motor (PMAC 15kW Cont. / 38kW Pk. Liquid Cooled Motor Drive System 72/84V 550A) (35lbs)
- 135 mile range (GBS 84V 100Ah Li-Ion Battery Pack with EMUS BMS and Charger) (28lbs)

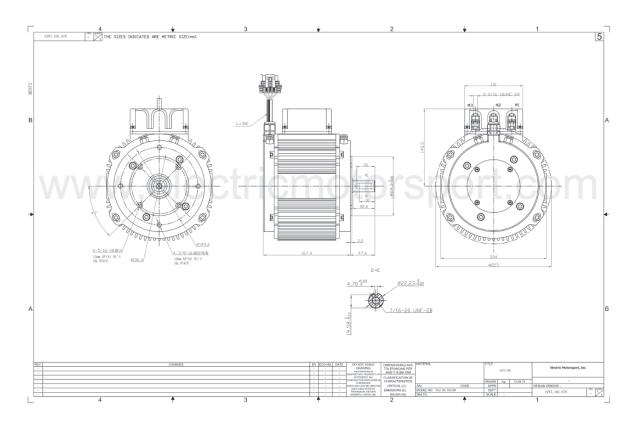






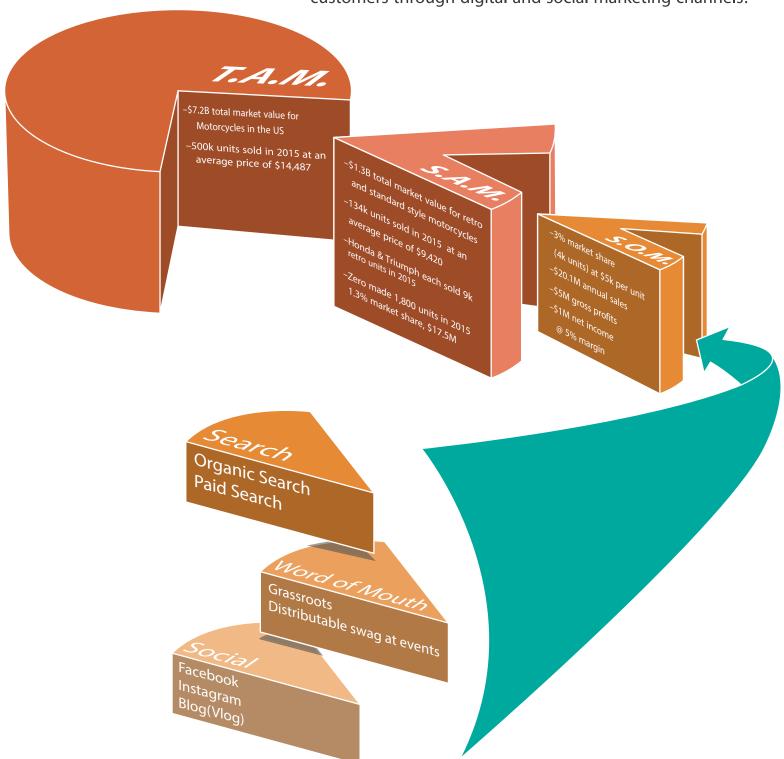
Using a liquid cooled motor allows for more options in creating a case to house the components and still have the look of a 'classic' motorcycle. These motors also have more power for their size compared to their air-cooled cousins.





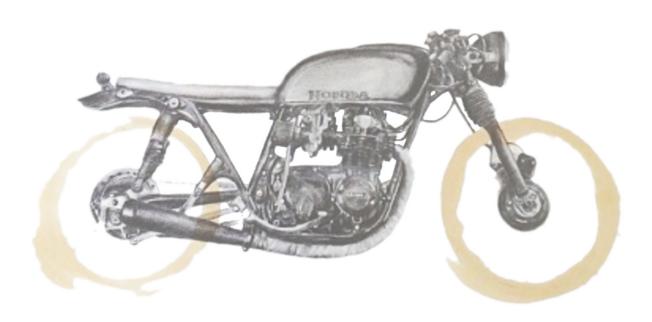


RELEC Motors will leverage a market opportunity to combine vintage feel with sustainable technology. We will reach these customers through digital and social marketing channels:





Our beachhead customers are Honda CB enthusiasts from the Philadelphia area, where there is a large interest in these nearly bombproof machines. RELEC will appeal to environmentally conscious riders in the DIY world who prefer classic styling, and custom motorcycle builders offering the same.





Overview

Pricing initially in the upper end of the competition, and decreasing as volume increases and costs go down. Crate engines from top end competitors are Triumph in the five to seven-thousand range, Harley-Davidson in the four to ten-thousand, and average rebuilds in the range of four to nine-thousand dollars.

Year	0	1	2	3	4
Retail Price	\$ - \$	6,499 \$	6,499 \$	5,495 \$	4,995
Unit Cost	\$ 12,380 \$	8,180 \$	6,752 \$	4,690 \$	3,624
Per Unit Profit/Loss	\$ (12,380) \$	(1,681) \$	(253) \$	805 \$	1,371
Gross Margin	-	-25.9%	-3.9%	14.6%	27.4%

We will progress from a working prototype to low volume production in the first year. We will then increase production to lower costs over years two and three, reaching full production volume in year 4. After year 5 we would grow production with the market and consider a pivot to producing OEM equipment, entering adjacent markets, or exiting with a sale to a major manufacturer.



We will use commercial off the shelf components for the prototype and negotiate lower component pricing to reduce costs as we increase volume. We exect to optimize sourcing costs in year four when we reach full scale production.

Production Year	Pı	0 rototype 1 Unit	L	1 ow Volume 100 Units	N	2 Med Volume 400 Units	ŀ	3 High Volume 900 Units	4 I Production ,000 Units
Motor	\$	3,200	\$	2,000	\$	1,500	\$	1,000	\$ 750
Controller	\$	500	\$	500	\$	450	\$	350	\$ 250
Motor Drive Kit	\$	3,700	\$	2,500	\$	1,950	\$	1,350	\$ 1,000
Batteries	\$	5,000	\$	4,000	\$	3,500	\$	2,500	\$ 2,000
Battery Management System	\$	1,000	\$	575	\$	575	\$	350	\$ 250
Charger	\$	500	\$	300	\$	250	\$	150	\$ 100
Battery Package	\$	6,500	\$	4,875	\$	4,325	\$	3,000	\$ 2,350
Total off the shelf materials	\$	10,200	\$	7,375	\$	6,275	\$	4,350	\$ 3,350



We will hit our full production milestone at year four, and one-million dollars net income in year six. During the first nine months we will develop the product, build the brand, and prepare to present to investors in order to raise funds for low scale production in year one.

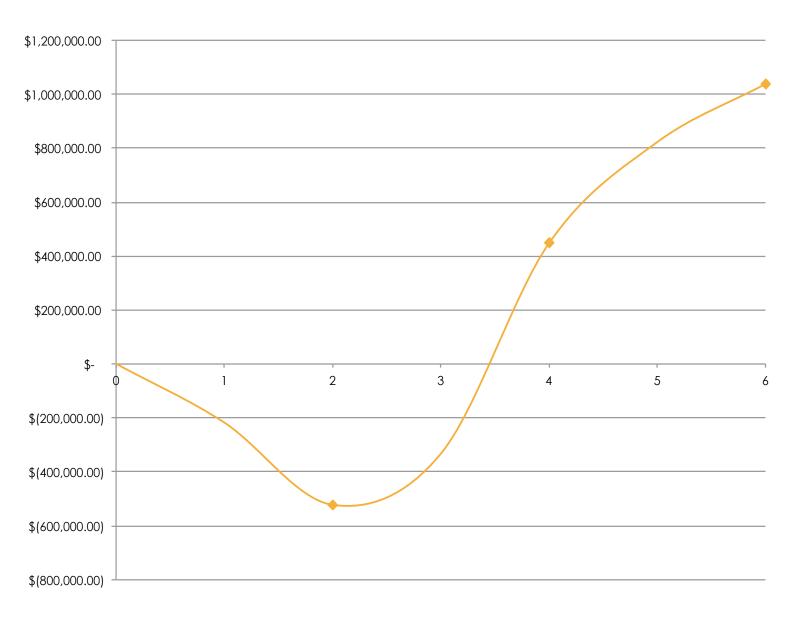
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Month	0-3	3-6	6-9	9-12
Stage	Prototype	Testing	Fundrasing	Low Scale Production
Costs	\$ 15,000-20,000	\$ 10,000-15,000	\$ 10,000-15,000	(See Year 1 Costs)

			_								
Year 0	_	1		2		3		4		5	6
Sales		100)	400)	900)	4,000)	5,000	5,500
Price Per Unit	\$	6,499	\$	6,499	\$	5,495	\$	4,995	\$	4,995	\$ 4,996
Revenue	\$	649,900	\$	2,599,600	\$	4,945,500	\$	19,980,000	\$	24,975,000	\$ 27,478,000
Cost of Goods Sold	\$	818,000.00	\$	2,700,800.00	\$	4,221,000.00	\$	14,496,000.00	\$	17,940,000.00	\$ 19,756,000.00
Gross profit	\$	(168,100.00)	\$	(101,200.00)	\$	724,500.00	\$	5,484,000.00	\$	7,035,000.00	\$ 7,722,000.00
Operating expenses	\$	68,239.50	\$	311,952.00	\$	494,550.00	\$	1,798,200.00	\$	2,022,975.00	\$ 2,003,146.20
Research and development	\$	32,495.00	\$	129,980.00	\$	247,275.00	\$	999,000.00	\$	1,248,750.00	\$ 1,373,900.00
Sales, General and administrative	\$	64,990.00	\$	259,960.00	\$	494,550.00	\$	1,998,000.00	\$	2,497,500.00	\$ 2,747,800.00
Total operating expenses	\$	165,724.50	\$	701,892.00	\$	1,236,375.00	\$	4,795,200.00	\$	5,769,225.00	\$ 6,124,846.20
EBIT	\$	(333,824.50)	\$	(803,092.00)	\$	(511,875.00)	\$	688,800.00	\$	1,265,775.00	\$ 1,597,153.80
Interest Expense	\$	-	\$	-	\$	-	\$	-	\$	- !	\$ -
Net Income before Tax	\$	(333,824.50)	\$	(803,092.00)	\$	(511,875.00)	\$	688,800.00	\$	1,265,775.00	\$ 1,597,153.80
Provision for income taxes	\$	(116,838.58)	\$	(281,082.20)	\$	(179,156.25)	\$	241,080.00	\$	443,021.25	\$ 559,003.83
Net income	\$	(216,985.93)	\$	(522,009.80)	\$	(332,718.75)	\$	447,720.00	\$	822,753.75	\$ 1,038,149.97



Year six will be a milestone where we reach one-million dollars in net income





Charlie Hatton:

MBA from UNC Chapel Hill, Aerospace Engineering degree from Embry-Riddle, veteran Marine Corps officer (F-18 pilot and Supply/Logistics Officer). Currently working for PSE&G-Electric Operations as a Quality Assurance program manager. Passionate about riding and working on motorcycles since sophomore year of college back in 2000, riding the same Honda CBR since 2001. Lives in Yardley with his wife and 2 kids and excited to raise the family in beautiful Bucks County.

Keith Hatton:

BSID from University of the Arts in Philadelphia, and a city native ever since. Previously the Creative Director for Elite Bicycles, currently working at Curio as an Industrial Designer and product developer. Extensive experience in delivering freelance design projects including custom designed logos and graphics, as well as physical prototypes and custom low volume production products. A driven competitor and meticulous mechanic – category two bicycle racer and custom bike builder.

Year 0-1 (Seed): \$30-40k to launch

Year 1-2 (VC): \$1.1M for COGS while increasing production

Year 2-3 (Bank): \$1.5M for tooling to scale for full production

Year 4 (IPO/Sale): \$5M to develop OEM products





Jan \nearrow Fo	eb $ ightarrow$ Mar $ ightarrow$ Apr $ ightarrow$ Ma	ıy 🔪 Jun		Jul	Aug	Sep Oct Nov	\geq	Dec
	Q1) Q	2			Q3	Q4		
Division	Task or Milestone	Lead Support	Status	Target Date	Date Complete	Macro-Timeline/ Notes	Cost	
Procurement	Test Rig (rolling frame or complete motorcycle)			4/15/17		1970s CB550/750	\$	1,500
	Motor kit Battery Kit			5/1/17 5/1/17		PMAC 15kW/38kW LiquidCooled 72/84V 550A GBS 84V 100Ah Li-Ion w/EMUS BMS and Charger	\$	3,700 6,500
Í	Aluminum plates			4/8/17		12024T3511 ALUM SHEET .250 2X4	\$	200
	3D printing filament			5/28/17		NylonX Carbon Fiber Filament - 3.00mm (0.5kg) (x2)	1 '	130
	Hardware			4/21/17		Bolts and spacers	\$	100
	All Materials and Componenets on Hand			6/10/17	2/20/2047		\$	12,130
Legal	Articles of Incorperation			4/1/17	3/29/2017		\$	125
	Board of Directors			5/1/17 6/1/17			\$	300
	 EPA Certification			10/1/17			\$	1,800
	Provisional Patent			7/1/17			Ś	130
	Full Patent Application			8/1/17			\$	900
	Form the Company and Protect the Product			10/1/17			\$	3,255
Research & Development						Phase 1: RAPID Prototype Development		,
	Week 1: Structural engineering - shape the spine			4/8/17		Stage 1: Structure	\$	400
	Week 2: Fabricate the spine			4/15/17		Waterjet to cut aluminum plates		
	Week 3: Fabricate frame mounting points Week 4: Test fit in frame			4/22/17 4/29/17		Drill mounting points for brackets, tap mounts Cut Spacers and hardware		
	Week 5: Determine component mounting points			5/6/17		Stage 2: Function	- s	400
	Week 6: Route internal cables and cooling			5/13/17		Drill mounting points for brackets, tap mounts	*	
Í	Week 7: Connect and test assembled components			5/20/17				
Í	Week 8: Test drive			5/27/17		2. 2.	٠.	
Í	Week 9: Design cover panels and shrouds Week 10: Print or fabricate pieces, determine mounts			6/3/17 6/10/17		Stage 3: Appearance	\$	400
	Week 11: Assemble			6/17/17				
	Week 12: Test drive			6/24/17				
	Prototype Ready for Testing and Touring			7/1/17			\$	1,200
Marketing	Website hosting & Development			4/8/17			\$	100 200
	Search (paid and organic) Facebook promotions			6/24/17 7/17/17			\$	100
Í	Instagram content			5/6/17			\$	100
	Blog			4/8/17			\$	-
	Youtube			5/6/17			\$	2 000
Í	Events Planned and Paid Promotional Materials on hand			6/3/17 6/17/17			\$	2,000 500
	Establish Marketing Channels			8/1/17			\$	3,000
Research & Development						Phase 2: Testing and Touring		
	Week 13: Planning: Routes, Safety, Support			7/8/17		Stage 1: Trouble finding & Benchmarking	\$	400
	Week 14: Speed test Week 15: Range test			7/15/17				
				7/22/17				
	Week 16: Power test			7/22/17 7/29/17				
	Week 16: Power test Week 17: Daily Rider - City					Stage 2: Livability Testing	\$	400
	Week 17: Daily Rider - City Week 18: Daily Rider - City			7/29/17 8/5/17 8/12/17		Stage 2: Livability Testing	\$	400
	Week 17: Daily Rider - City Week 18: Daily Rider - City Week 19: Daily Rider - Suburban			7/29/17 8/5/17 8/12/17 8/19/17		Stage 2: Livability Testing	\$	400
	Week 17: Daily Rider - City Week 18: Daily Rider - City Week 19: Daily Rider - Suburban Week 20: Daily Rider - Suburban			7/29/17 8/5/17 8/12/17 8/19/17 8/26/17			\$ \$	
	Week 17: Daily Rider - City Week 18: Daily Rider - City Week 19: Daily Rider - Suburban			7/29/17 8/5/17 8/12/17 8/19/17		Stage 2: Livability Testing Stage 3: Event Touring	\$	400 400 marketing bud
	Week 17: Daily Rider - City Week 18: Daily Rider - City Week 19: Daily Rider - Suburban Week 20: Daily Rider - Suburban Week 21: Rally Event Week 22: Race Event Week 23: Car/Bike Show Event			7/29/17 8/5/17 8/12/17 8/19/17 8/26/17 9/2/17 9/9/17 9/16/17			\$	400
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