



Forecasting Regional Electrical Load



Energy is like bananas...

Energy Industry at a Glance

Problems

1

Energy Fluctuations



Electric Car Charging



Global Warming Induced Weather



Population Growth

2

Surplus Generation



Reliance on Non-Renewables



Inefficient MicroGrid

3

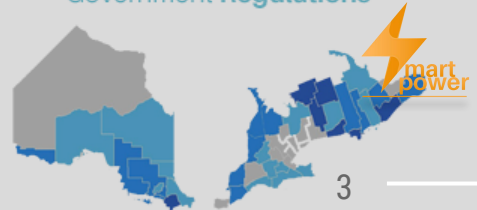
Increased Market Cost



Aging Infrastructure



Government Regulations



Widespread Customer Base

The Market

**\$6.02
Billion**

Energy Market Size

OPG 2019^[1]

**\$11.7
Million**

Surplus Energy Generation

IESO 2019^[2]

**26.4
Tera-Watts**

Electrical Imports & Exports

IESO 2019^[3]

1. <https://www.opg.com/reporting/financial-reports/>
2. <http://www.ieso.ca/en/Corporate-IESO/Corporate-Accountability/Financial-Reporting>
3. <http://www.ieso.ca/corporate-ieso/media/year-end-data>
4. IESO – Independent Electrical System Operator
5. OPG – Ontario Power Generation
6. \$ in CAD

Value Proposition

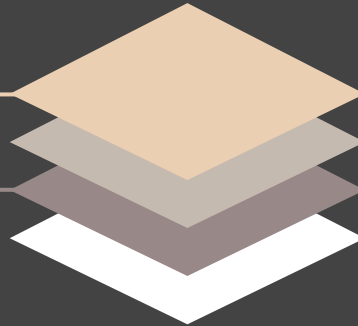
WE CREATED A LAYERED SOLUTION...



Use Machine Learning to analyze inputs from real historical data to learn nonlinear trends



Reliable and accurate data collected from government sources



Effective hourly climate data specific to each region to better forecast customer load



Accurate regional forecasts provided through a WebApp



ONTARIO **POWER** GENERATION



**London
Hydro**



Customers & Partners










Our **customers** are our
partners!

- Ontario Power Generation
- Canada Energy
- IESO
- London Hydro



Revenue Stream

Subscription Based Model

		
	Basic	Premium
	\$299.99/day	\$499.99/day
Weekly Load Forecasting		
Embedded Weather Analysis		
Metric Customization		
Adjustable Forecast Time Range		
Model Re-run Capability		
Hourly Load Forecasting		



Cost Model

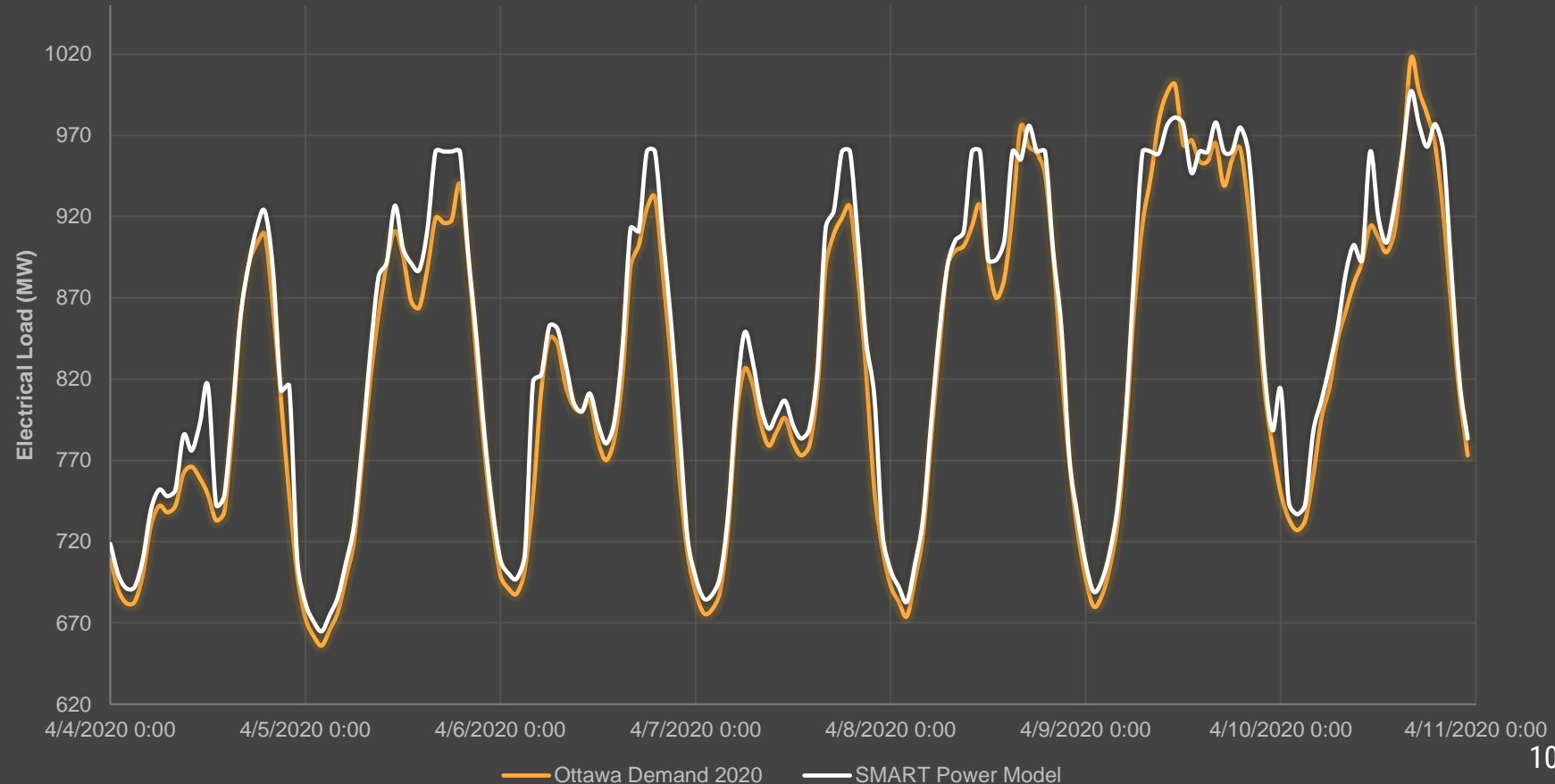
- Data Storage
- Hosting the Domain
- Microsoft Azure™ Subscriptions
 - Cluster Management
 - Node Usage

DEMONSTRATION

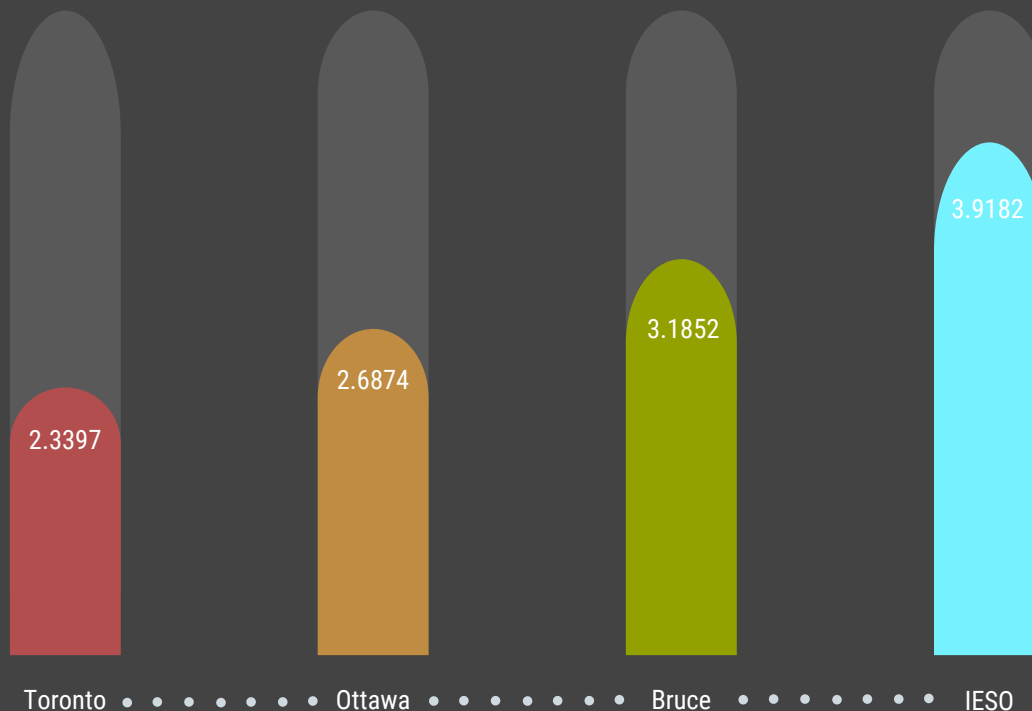
<https://thinksmartpower.azurewebsites.net/>



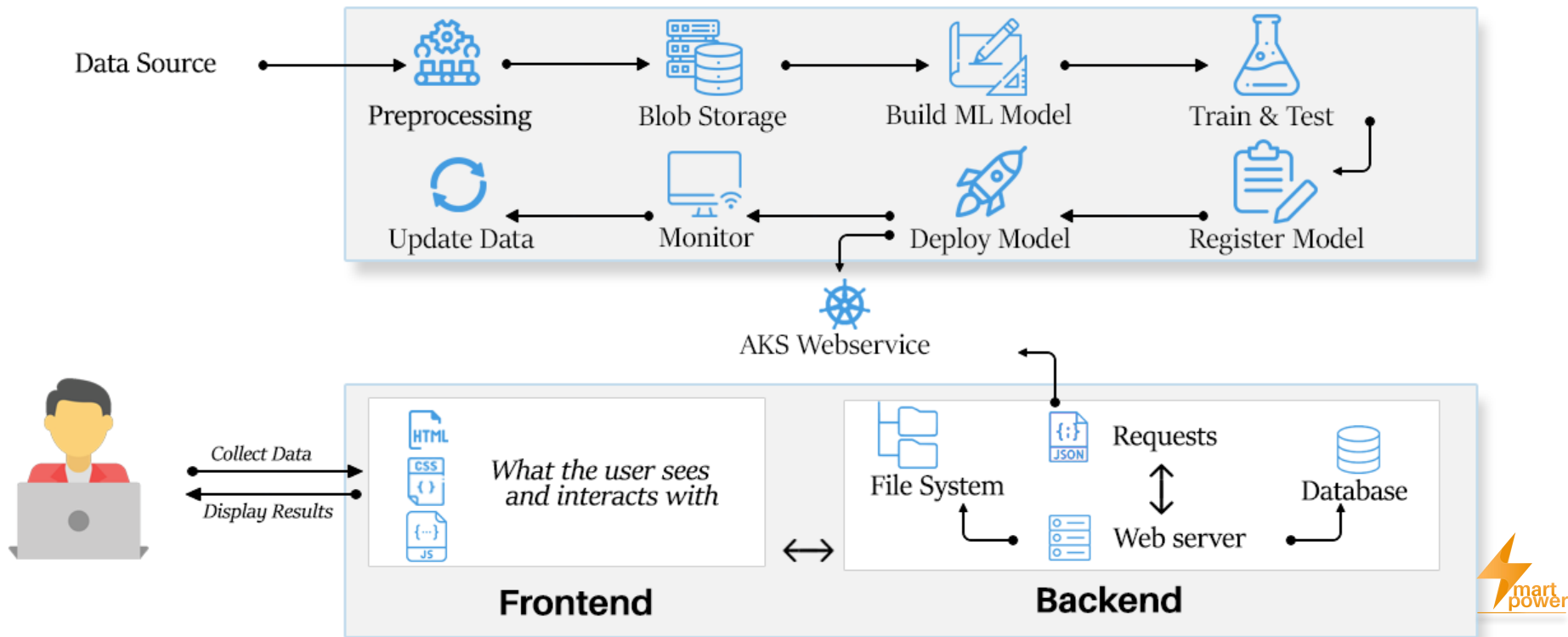
Ottawa Electrical Demand and SMART Power Forecast



Average Percentage Error for Models



Design Architecture



Projected Income Statement

Assumptions:

Sales*: 30% increase from year 1 to 2 and year 2 to year 3 for premium and 20% for basic

Interest*: 7% interest rate for \$135k small business loan with 5 year payback period

Taxes*: 3.2% Small Business Tax Rate for first 500,000 of income

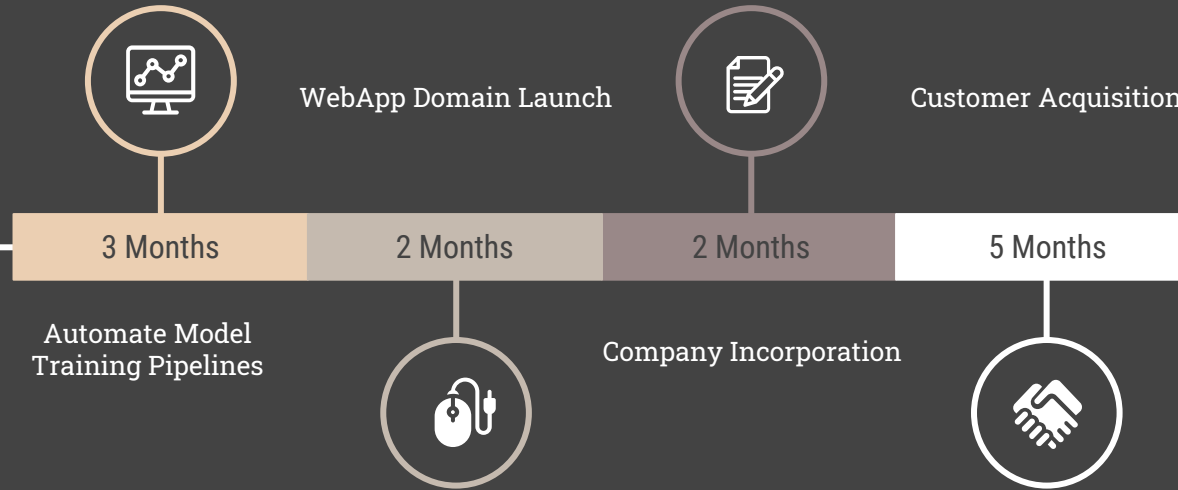
Revenue	Year 1	Year 2	Year 3
Premium Subscriptions	\$ 182,496.35	\$ 237,245.26	\$ 308,418.83
Basic Subscriptions	\$ -	\$ 109,135.00	\$ 130,962.00
Total Revenue*	\$ 182,496.35	\$ 346,380.26	\$ 439,380.83

Cost of Goods			
Storage Fees	\$15,488	\$20,134	\$26,175
Cluster Management	\$9,139	\$11,880	\$15,444
Hosting Expenses	\$1,200	\$1,200	\$1,200
Total CoGS	\$25,827	\$33,215	\$42,819
Gross Profit	\$156,670	\$313,166	\$396,562

Operating Expenses			
Marketing	\$5,000	\$7,500	\$10,000
R&D	\$1,500	\$1,500	\$3,000
Rent	\$30,000	\$30,000	\$30,000
Wages	\$105,000	\$105,000	\$105,000
SG&A	\$2,500	\$4,000	\$7,000
Loan	\$27,000	\$27,000	\$27,000
Interest*		\$9,450	\$9,450
Total Expenses	\$171,000	\$184,450	\$191,450
Taxable Income	(\$14,330)	\$114,386	\$319,497.54
Taxes*	(\$459)	\$3,660	\$10,224
Net Profit	(\$13,872)	\$110,725	\$309,274



NEXT STEPS SCHEDULE



MEET THE TEAM



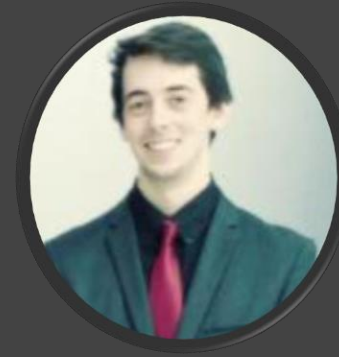
ADAM DUNN

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Software Development

