



neurala

SPRING 2020

Neurala: trusted team leading AI revolution



UNIQUE TECHNOLOGY

Only AI able to **continuously learn on any device**



LEADERS IN AI RESEARCH

Co-founded by **3 AI professors**, dozens of patents and pioneering AI publications



CUSTOMER MOMENTUM

56M+ devices with Neurala's AI, Blue Chip Industrial customers portfolio rapidly expanding



TOP TIER AI TEAM

Globally recognized technical team strong of 35+ AI PhDs and Engineers



REPEATABLE BUSINESS MODEL

Business model with product-based strong **annual/recurring revenues**



AWARDS

2019 EY Entrepreneur of the Year National Finalist
2018 Edison Awards - Gold
2018 AUVSI Excellence Award – 1st
2018 CB Insight Most Promising AI company
2017 TechConnect Innovation Award
2016 Draper Venture Most Innovative Company


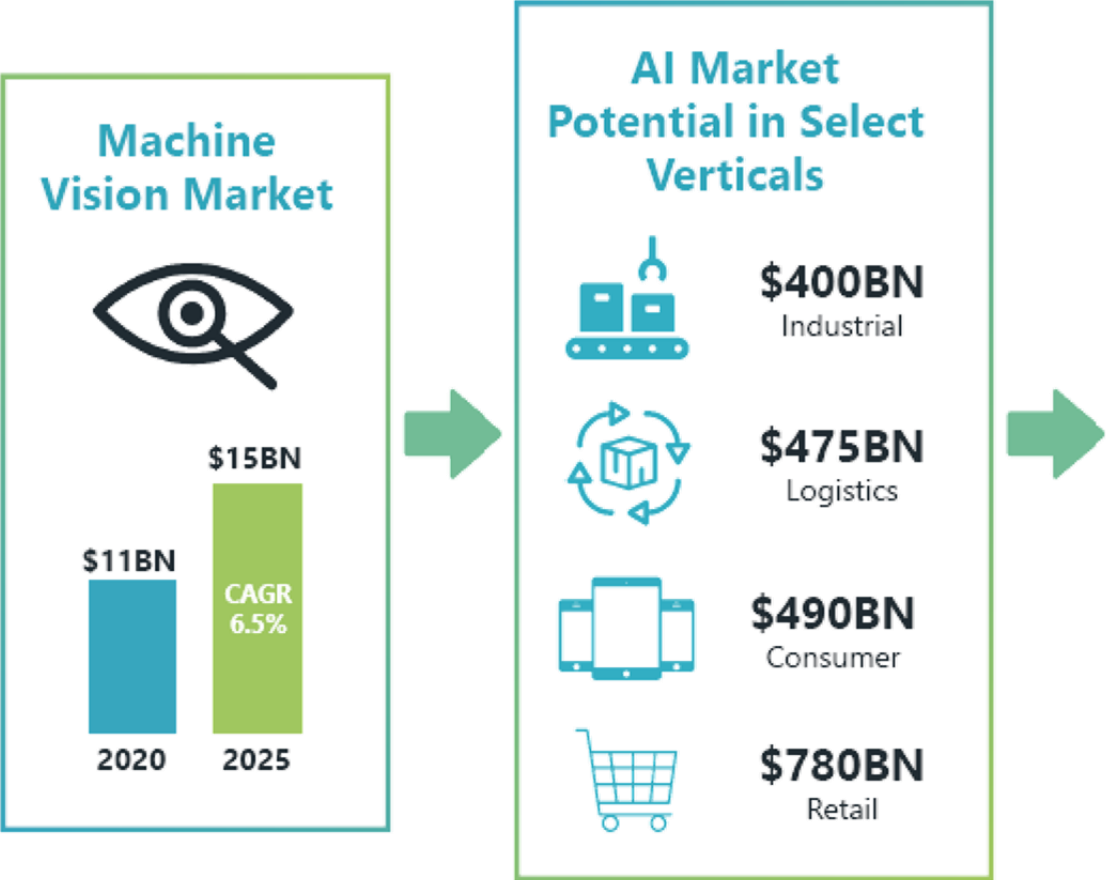
Neurala is a vision-based AI software company.

We make the devices and applications that work with images and video smarter.

Much, much, smarter.



Market opportunity for Neurala pre-COVID



\$3.5TN - \$5.8TN

**Estimated impact
of AI on the Economy**

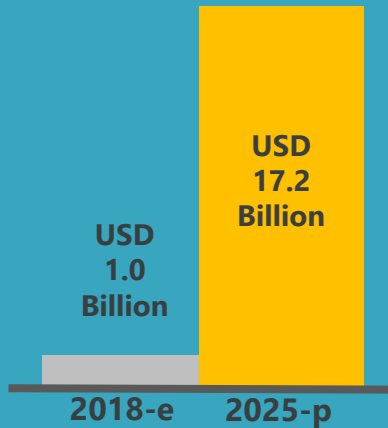
Sources:
McKinsey "Visualizing the uses and potential impact of AI and other analytics, April 2018"
Markets & Markets "Industrial Machine Vision Market"

Post-COVID, New normal, Manufacturing and AI

- Industry 4.0 will gain momentum and be the differentiator between manufacturers that survive and thrive and those that don't.
- AI is the enabling technology for this change

Global AI Market in Manufacturing
will be accelerating at CAGR of

49.5%



Markets
& Markets

Among machine learning
technologies

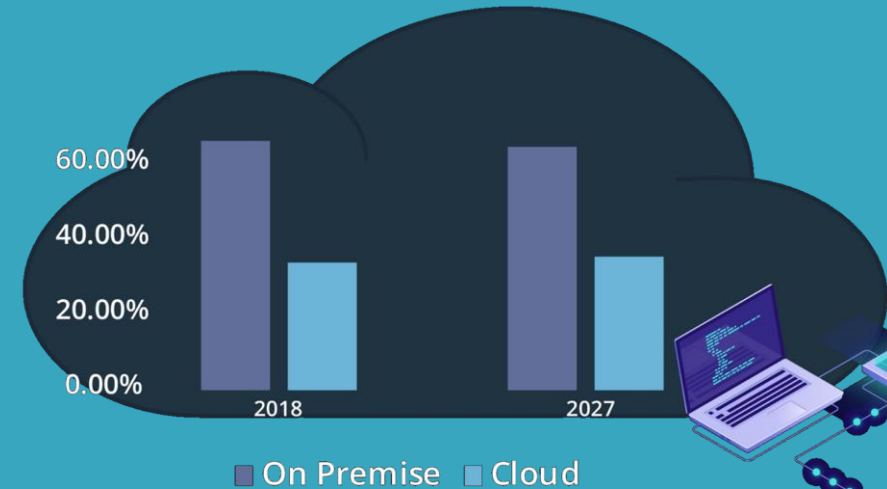
DEEP LEARNING

holds major share
of market

Markets & Markets



Deployment: On-Prem wins vs Cloud



Inkwood
Research

■ On Premise ■ Cloud

Neurala's unique tech positions itself to lead AI adoption in the new normal

Neurala's Lifelong DNN™



Learns and runs on any edge device regardless of cloud connectivity



Recognizes defects with training on only good samples



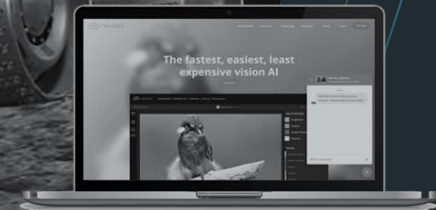
New information can be learned without retraining



Scalable and flexible solution not requiring capital expenditures

Based on
10 years of work
with NASA and
DARPA

The tech powering Neurala Brain Builder



20+ awarded and pending patents since 2006

Introducing Brain Builder

Enables easy, flexible, and scalable building and deployment of custom vision AI applications

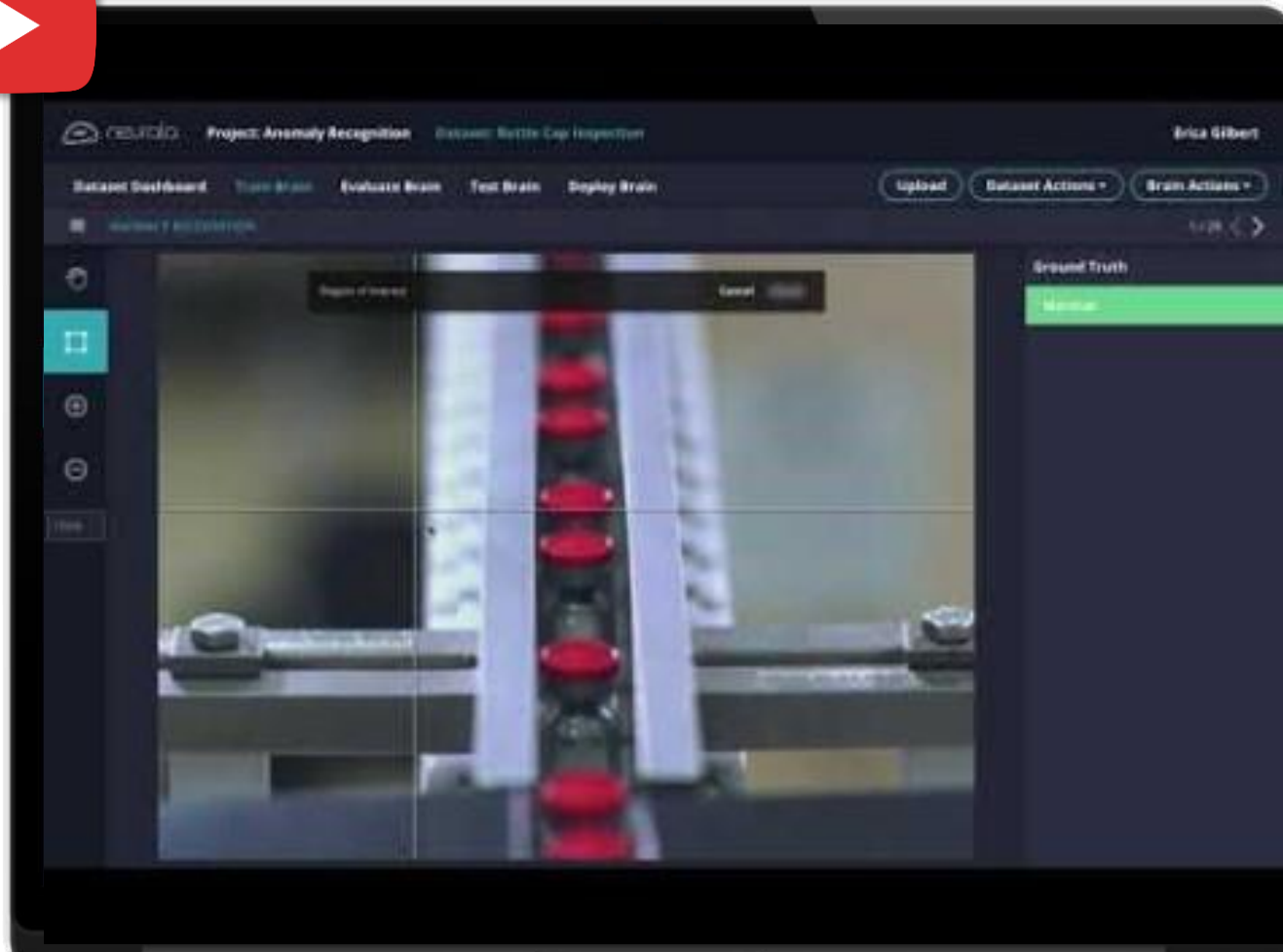


No AI expertise required

Builds visual AI in minutes

Deploys and keep learning anywhere

Industrial inspections use case



- Quickly and easily configured
- Create with only "Acceptable" product images
- Cost-effective Scalable deployment through SW rather than bulky, expensive HW

A software-only, hardware-agnostic product for Visual Quality Inspections

Brain Builder (Cloud and/or On-Prem)

Build and manage Custom Visual Inspection models for a wide range of inspection use cases

- Brain Performance Management
- Version Management
- Image Asset Management

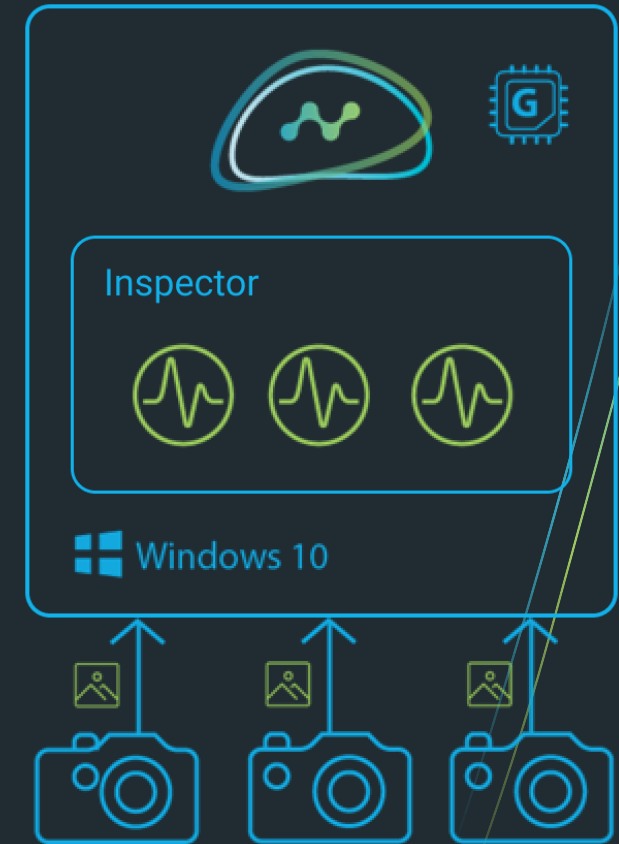
Inspector (On-Prem)

Quickly & easily configure the touchpoints of models to your machine

- Live View From Camera to Gather Data Directly From Machine
- Create Workflows and set up output behaviors

Scalable & Cost-Effective Integration Architecture

- Application(s) Installable for a Windows computer with mid-price GPU
 - Easily Integrates with Existing Equipment
 - Camera Agnostic
 - Can support multiple cameras in parallel



Competitive Landscape and Differentiators

Current Landscape

- Competitors rely on in-house hardware and cloud connectivity, limiting use cases and resulting in high latency



Neurala Differentiation

Requires
1,000x
Less Data

Trains
10,000x
Faster than
Traditional DNN

Builds AI Models
90%
Faster

Saves
90%
In Image Tagging
Time

Greater than
25%
Memory Cost
Savings

Greater than
99%
Reduction in GPU
Training Costs



Neurala is the Trusted Partner to Global Industrial Brands

Example Customers



Industrial
machines



Robots



Drones



Smart
Devices

IHI

IMA SPA

MITSUBISHI
ELECTRIC
FACTORY AUTOMATION SYSTEMS

badger
technologies

Endeavor
ROBOTICS™

IHI AEROSPACE

AVISIGHT

MITSUBISHI
HEAVY INDUSTRIES

LASERPAS

OPTELOS
DRONE DATA MANAGEMENT

grupo
SAPSA



MOTOROLA
SOLUTIONS

SAST.
A Bosch Start-up

Key Partners

IMA SPA

FLIR®

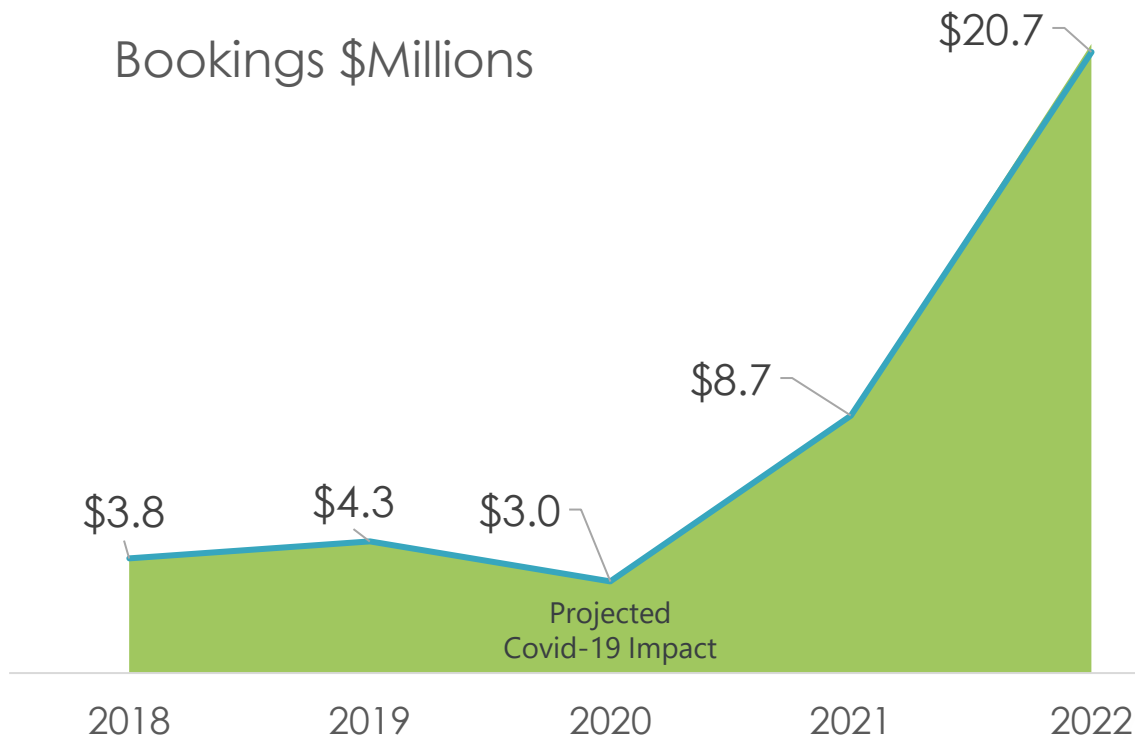
MITSUBISHI
ELECTRIC
FACTORY AUTOMATION SYSTEMS

IHI

OPTELOS
DRONE DATA MANAGEMENT

AVISIGHT

Projections



\$11.7 million
pipeline & growing

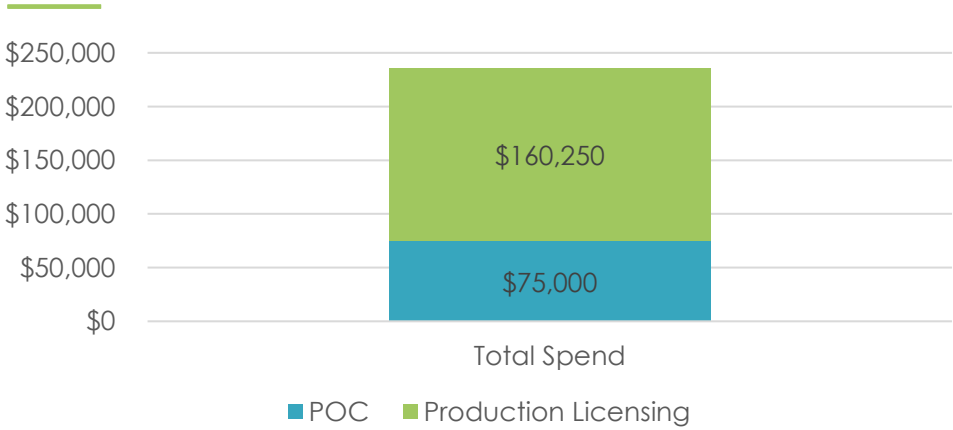
70% of opportunities
include Brain Builder

Positive EBITDA
expected 1Q 2022

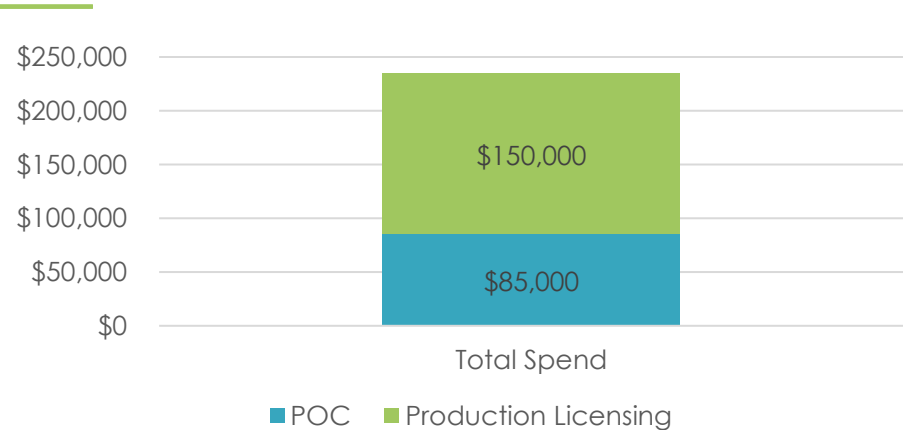
Business Model Commentary

- Technical feasibility assessments conducted as **paid Proof of Concept** engagements
- Paid proof of concepts convert to **Production Licensing** agreements (SaaS &/or OEM)
- Representative POC to Production licensing examples below:

Badger Technologies (Jabil)



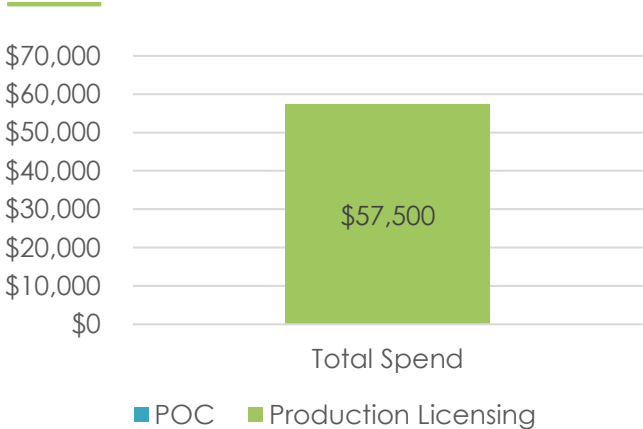
IHI IoT Group



Enabling Exponential Revenue Growth via Channels

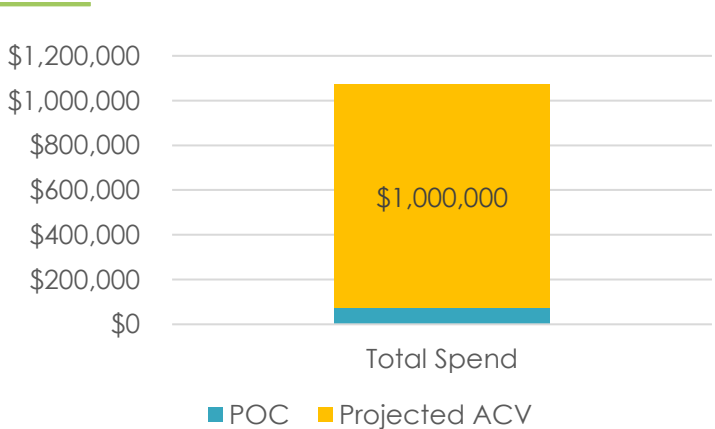
- To maximize revenue upside, Neurala has targeted accounts with greater revenue upside
- Each also requires a POC, but with a greater return on that investment
- Where productized capabilities exist (e.g. Neurala’s cloud API, POCs are performed pre-sale with low cost of sale)

Avisight/Optelos (Drone)



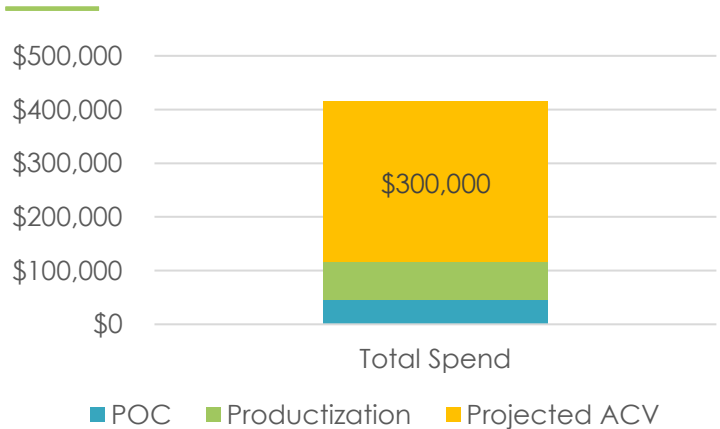
No cost POC as productized capability already exists to test/evaluate. 2 customer wins already secured.

IHI Logistics (Industrial Automation)



Custom integrations / testing still requires paid POCs. Reseller agreement & productization SOW under negotiations.

IMA (Industrial Automation)



Custom integrations / testing still requires paid POCs. Productization SOW in place, reseller agreement to be negotiated.

An Increasing Industrial Automation POC Pipeline with Upside



Open / Active Pipeline Deals

Count of Deal ID	Sum of Amount	Sum of Revenue Upside
36	\$ 1,529,436	\$ 5,915,000

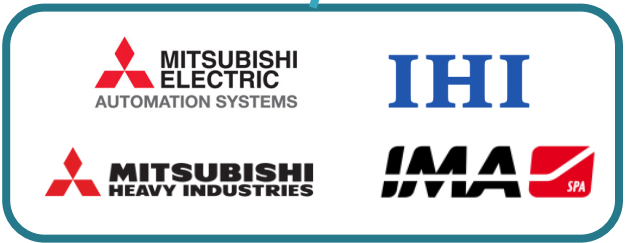
POC/Initial Contract Value

Upside Potential



Closed Won Contracts

Count of Deal ID	Sum of Amount	Sum of Revenue Upside
9	\$ 513,431	\$ 4,400,950



Financials

Neurala, Inc.
Operating Forecast - High Level View
2020 to 2022
(\$000s)

	2020					2021					2022				
	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q4</u>	<u>Total</u>	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q4</u>	<u>Total</u>	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q4</u>	<u>Total</u>
Bookings	\$ 568	\$ 459	\$ 1,150	\$ 872	\$ 3,049	\$ 971	\$ 1,825	\$ 2,654	\$ 3,211	\$ 8,660	\$ 3,587	\$ 5,171	\$ 5,698	\$ 6,237	\$ 20,693
Recognized Revenue	440	188	545	522	1,695	1,168	1,141	1,427	2,181	5,916	3,275	3,999	4,230	5,448	16,952
Gross Margin	302	57	406	370	1,136 67%	987	960	1,224	1,955	5,125 87%	3,015	3,738	3,946	5,165	15,864 94%
OpEx															
R&D / Eng / Prod	1,023	795	893	1,010	3,722	1,223	1,223	1,226	1,228	4,899	1,372	1,391	1,393	1,393	5,549
Sales & Mktg	535	452	473	536	1,996	639	651	694	771	2,754	811	939	1,003	1,121	3,873
Gen'l & Admin	642	528	466	445	2,081	565	621	607	573	2,366	605	675	628	590	2,498
	2,201	1,775	1,832	1,991	7,799	2,426	2,495	2,526	2,572	10,019	2,788	3,004	3,025	3,104	11,920
EBITDA	(1,899)	(1,718)	(1,426)	(1,621)	(6,664)	(1,439)	(1,535)	(1,302)	(618)	(4,894)	227	734	922	2,061	3,943
Ending Cash	900	2,303	770	(1,073)		(3,362)	(5,152)	(6,951)	(8,114)		(8,721)	(8,246)	(7,811)	(6,397)	
Headcount															
Customer Success	2	2	2	2		2	2	2	2		2	2	3	3	
R&D / Eng / Prod	26	22	22	22		26	26	26	26		28	28	28	28	
Sales & Mktg	9	7	7	7		7	7	8	8		8	9	9	9	
Gen'l & Admin	6	5	5	5		6	6	6	6		6	6	6	6	
	43	36	36	36		41	41	42	42		44	45	46	46	

300% Growth in Revenue since \$14M Series A (Jan 2017)

Number of devices deployed with Neurala AI	56M+
Bookings	\$4.3M in 2019
Product milestones	<ul style="list-style-type: none"> • Launched Brain Builder 3/14/19 • 1,300 users, 15 Enterprise customers • ACV \$27K (as of 2/20)
Number of patents granted/pending	25+
Talent	45 <ul style="list-style-type: none"> • 35 AI PhD researchers or engineers • 9 Sales & Marketing

PELION
VENTURE PARTNERS

DRAPER
ASSOCIATES

360
CAPITAL PARTNERS

MOTOROLA
SOLUTIONS

techstars

海银资本
HAIYIN CAPITAL

idinvest
PARTNERS

SHERPA
CAPITAL

Raising a \$12M round to develop AI-powered inspection offering

- **May 2020: closed \$4.8M out of \$12M, secondary close in June/July 2020**
- Neurala uniquely positioned to monetize large TAM in AI-powered inspections thanks to its differentiating technology and key partnerships in each segment to advance product development
- Use of funds: product, Tech, S&M, team growth
 - *R&D scaling*: Tackle Difficult QA Problems
 - Additional “Industrial” Backbones
 - Anomaly Detection
 - *Engineering Scaling*: Turn-Key Solution
 - On-premise Deployment
 - Enabling remote work collaboration
 - *Sales & Marketing Scaling*
 - Pipeline development
 - Adapt distribution model
- Key industrial investors from EU (Industrial/Corporate) and US (financial) committed



2016 Most Innovative Company



neurala

51 Sleeper Street, Floor 3

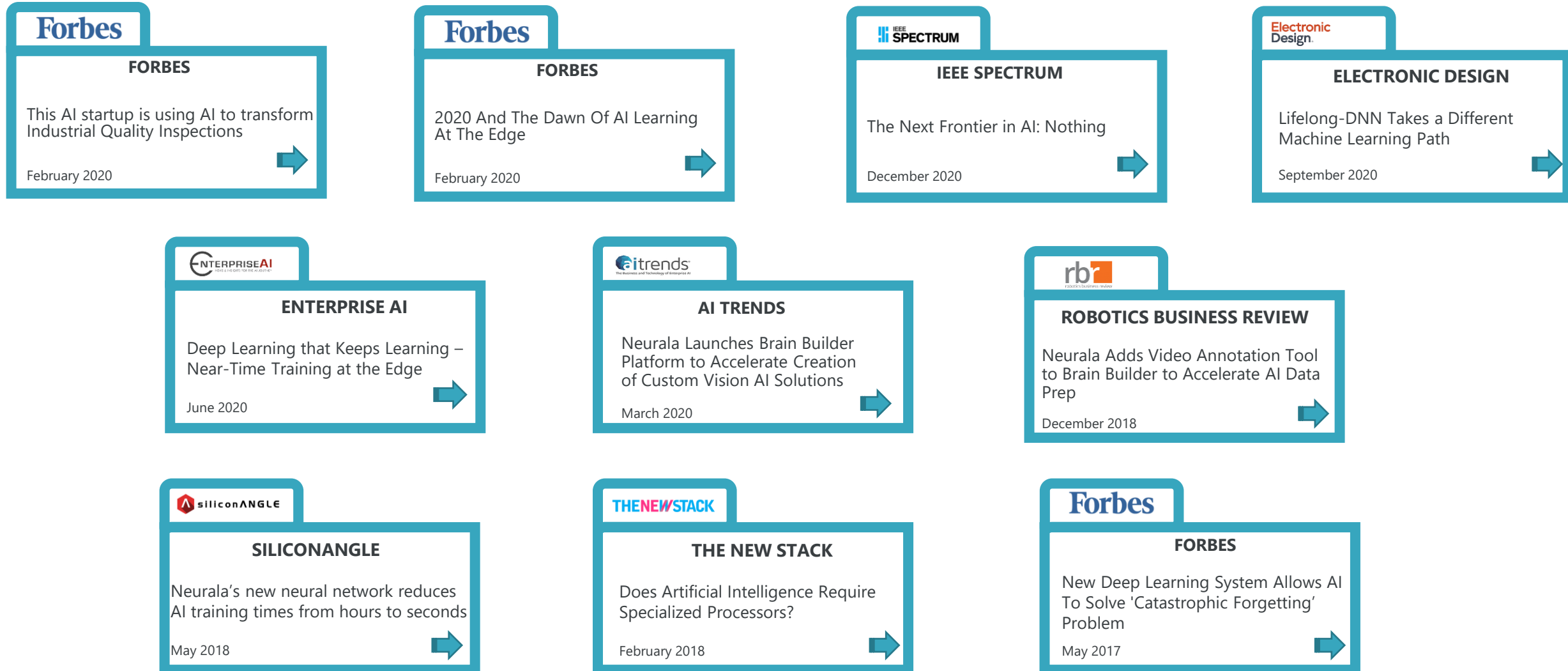
Boston, MA 02210

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www.neurala.com

Appendix: Selected Media Coverage

Media Coverage: Technology and Thought Leadership



Media Coverage: Use Cases



MANUFACTURING TOMORROW

IHI Corporation Selects Neurala to Enable Industrial Visual Inspection

November 2020



ROBOTICS TOMORROW

Neurala Empowers Robotics Industry With Customer Vision AI

June 2020



THE ROBOT REPORT

Neurala Teams With Badger Technologies On Vision AI

May 2020



TECH EMERGENCE

Applications of Machine Vision in Heavy Industry – Telecom, Transportation.....

May 2018



DISCOVER MAGAZINE

Artificial Intelligence Gives Drones Abilities We've Only Dreamed About

December 2017



MIT TECH REVIEW

Drones and Robots Are Taking Over Industrial Inspection

September 2017



THE BOSTON GLOBE

Boston's firm's artificial intelligence technology may have broader application

August 2017



EXECUTIVEBIZ

Motorola Partners with Neurala to Develop Intelligent Cameras for Public Safety Officials

July 2017



Appendix: Brain Builder additional info

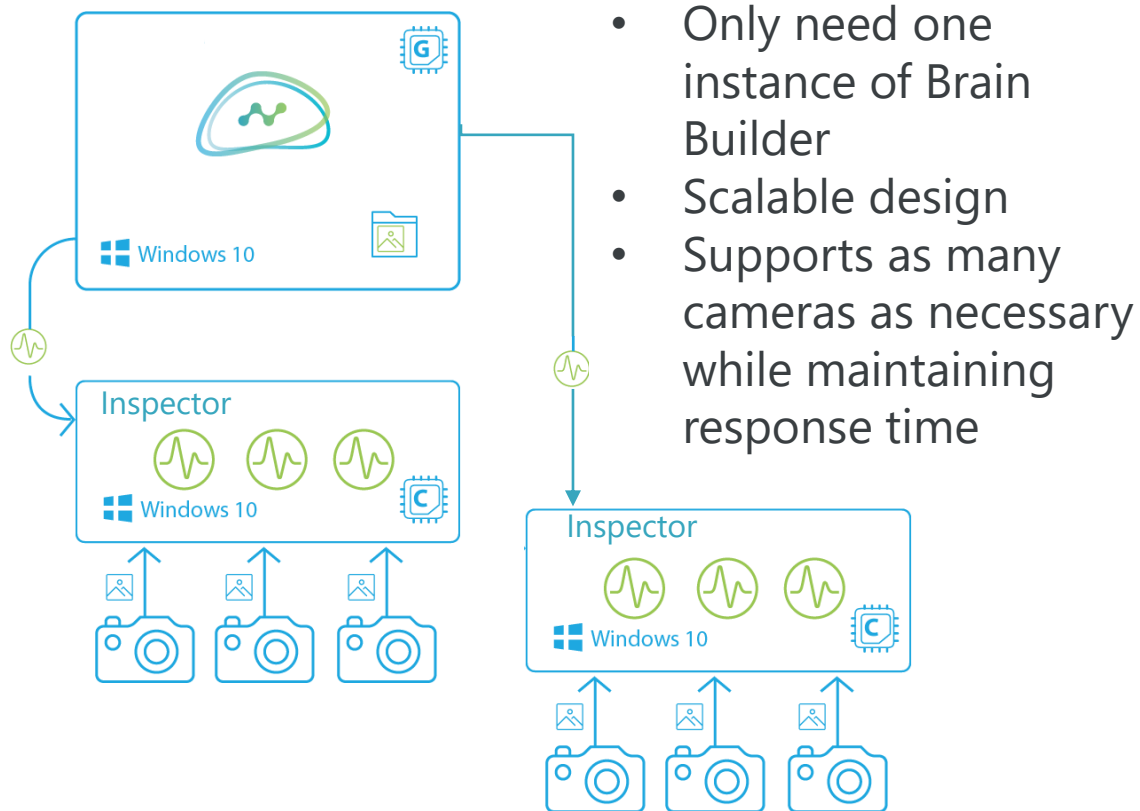
Recommended Hardware Specifications

	Brain Builder & Inspector
Camera	GigE Vision Standard
Image Type	Color/Monochrome
Minimum Defect size for Anomaly	~50 Pixels
Minimum number of imagers per class	50-100 depending on application
Acquisition Speed**	10-60 FPS with 4 cameras, up to 150 FPS with 1
Maximum Camera #	4
Operating System	Windows 10 (Linux support to follow)
GPU*	Nvidia GeForce RTX 2060
CPU	Intel i7
Memory Requirements	16GB RAM
Communication Protocols	Modbus TCP Server (additional protocols to follow)
I/O	Configurable via network

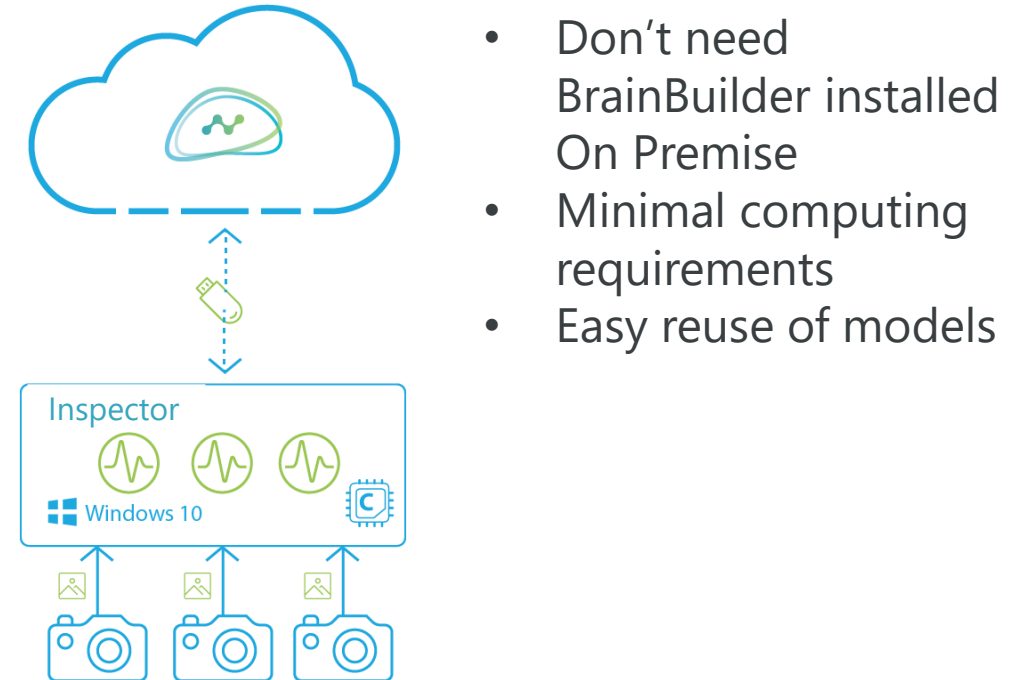
**Frame rate is variable and dependent on many things, including the number of cameras, the size of the model, etc

Future Architecture Options

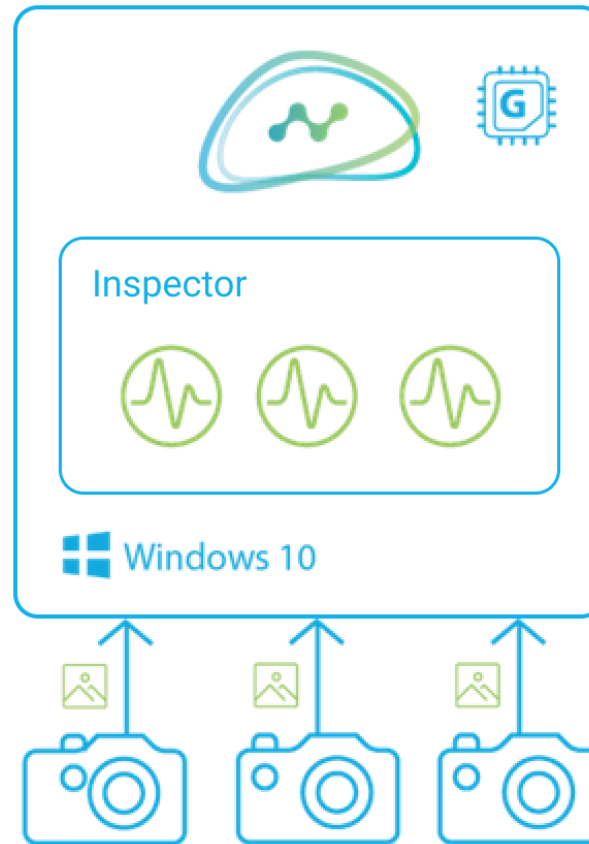
Hub to Host



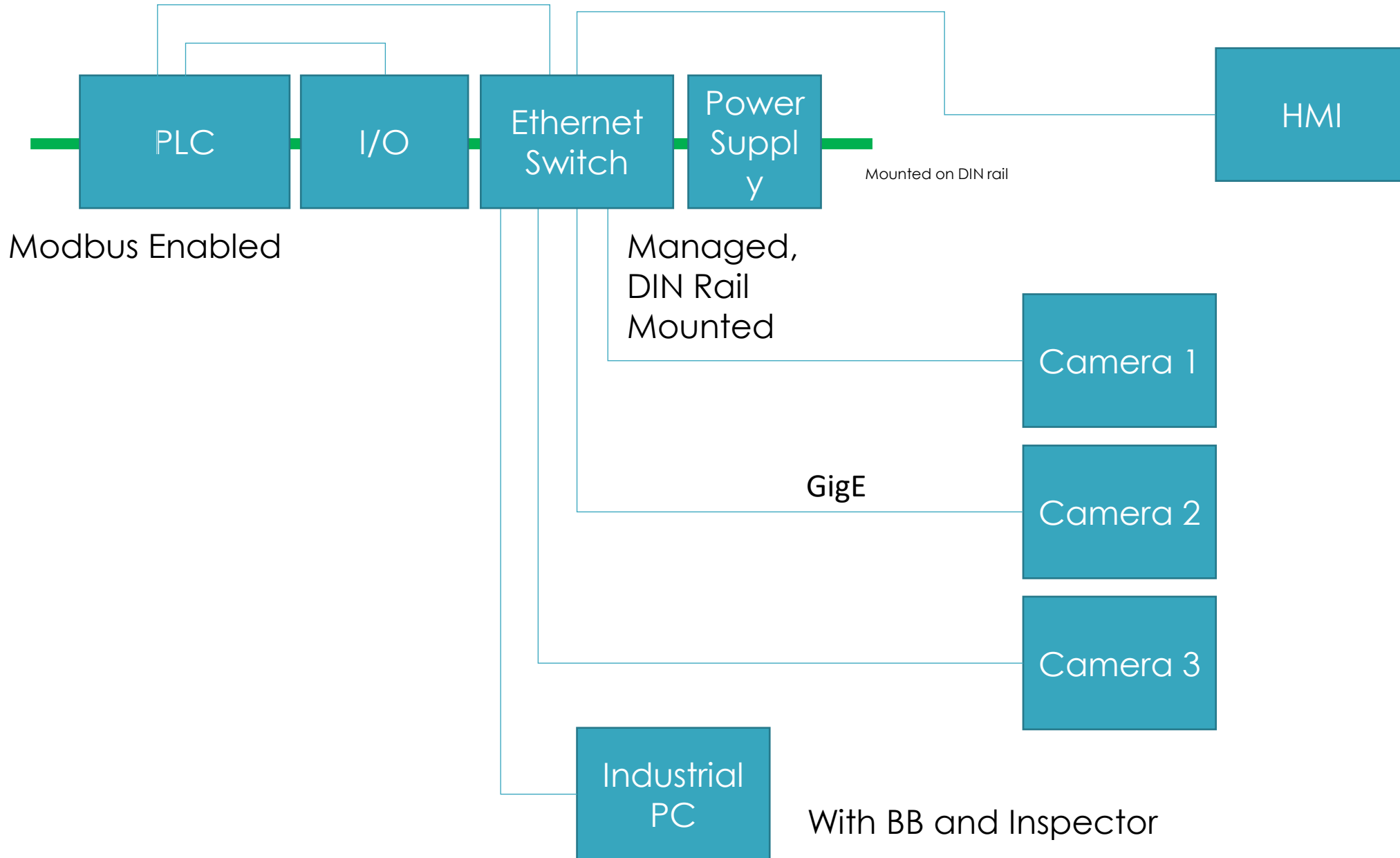
Cloud to Host



MVP Architecture



Architecture Option 1: Modbus, no Gateway



Product Roadmap*: bringing Custom Vision AI Inspections to every camera

Foolproof & Powerful
Economic & Everywhere



VIA

(Visual Inspection Automation)
Brain Builder + Inspector



Brain Builder

2Q/2020	3Q/2020	4Q/2020	1Q/2021
<ul style="list-style-type: none"> Anomaly Recognition without AI expertise 	<ul style="list-style-type: none"> Enhanced accuracy optimization User-tunable anomaly recognition Model behavior explain-ability 	<ul style="list-style-type: none"> Inspection quality metrics reporting and analytics 	<ul style="list-style-type: none"> Model pipelines (run AI on output of a prior AI model)
<ul style="list-style-type: none"> GigE Vision camera integration PLC integration (Modbus) NVIDIA GPU support Windows 10 install Live view Inspector 	<ul style="list-style-type: none"> Deployable to a GPU-less host More GigE cameras per Inspector host Linux install HTTP & OPC inference API 	<ul style="list-style-type: none"> Profinet, Ethernet IP, Ethercat Protocols, Inference API 	
<ul style="list-style-type: none"> Create custom AI without AI expertise Detection & Segmentation annotation tools** 	<ul style="list-style-type: none"> Enhanced accuracy optimization User-tunable anomaly recognition Model behavior explain-ability 	<ul style="list-style-type: none"> Detection model training Detection model business logic Automated labeling in detection annotation tools User-definable validation & test set More granular user access roles 	<ul style="list-style-type: none"> Detection model optimization Dataset analytics visualization
<ul style="list-style-type: none"> Support for FLIR Firefly model training** 	<ul style="list-style-type: none"> Very fast, ARM-only deployable model training 		

*Current year targets, subject to change

**Not currently available in VIA