

# 2023 Summer Internship Report Out

Vivian Chen

Product Marketing Intern

Routine Maintenance, Calibration and Process Instruments



## About Me

University of Washington – Seattle  
Master of Communication in Digital Media  
Graduating in March 2024

Previously worked at Ogilvy, ASUS, Starcom Media, and Comm  
Lead Consulting.



UNIVERSITY of WASHINGTON

Fluke

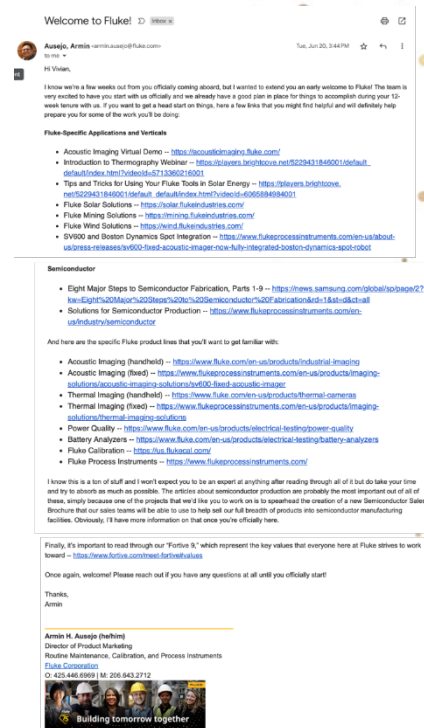


# Internship Tasks

## Main Project Semiconductor vertical market brochure

### Supported

- The Echo and the Beacon internal newsletters
- The 729Pro Pressure Calibration US Launch
- Product How-To short videos for social and digital hack
- SV600 NPI Playbook



Pre study for the semiconductor brochure that set me up for success



# Project Overview

- Craig Hasse, Strategic Account Executive
- A sales enablement piece that tells the story of what Fluke has to offer to the semiconductor industry.
- 1-2 page(s); prefer visual presentation than lengthy text; not a door opener
- To make our current and new customers aware of the many products/solutions we offer to this industry that they may not have been aware of.



A sample created by ChatGPT + Mid Journey.  
An awesome session with Adam Householder!

## Goals

- ***To reprogram and open our customers' eyes to the entire product portfolio we have to offer as Fluke.***
- ***To help cross-sell and up-sell a multitude of Fluke products.***

## Customer Benefits

- Takeaway a holistic view of our wide range of products.
- Get the reassurance and confirmation that their most trusted partner - Fluke has all the products they need.

# What my boss thinks I do



2 weeks

## Research Phase

- **Onboarding**
- How chips are made
- What consists of the semiconductor ecosystem
- Stakeholder needs and expectations



3 weeks

## Ideation Phase

- **Intern Week**
- Building on what we already have and understanding where Fluke products fit in
- Mockup creation
- Creative brief write-up



3 weeks

## Fruition Phase

- Seek feedbacks from Subject Matter Experts
  - Scope and purpose of the brochure
- Mockup revision
- Working with Creative Services (+2 Weeks to Deliverable)



Empathize



Define



Ideate



Prototype



Test



What I really do

# Semiconductor = stock trading

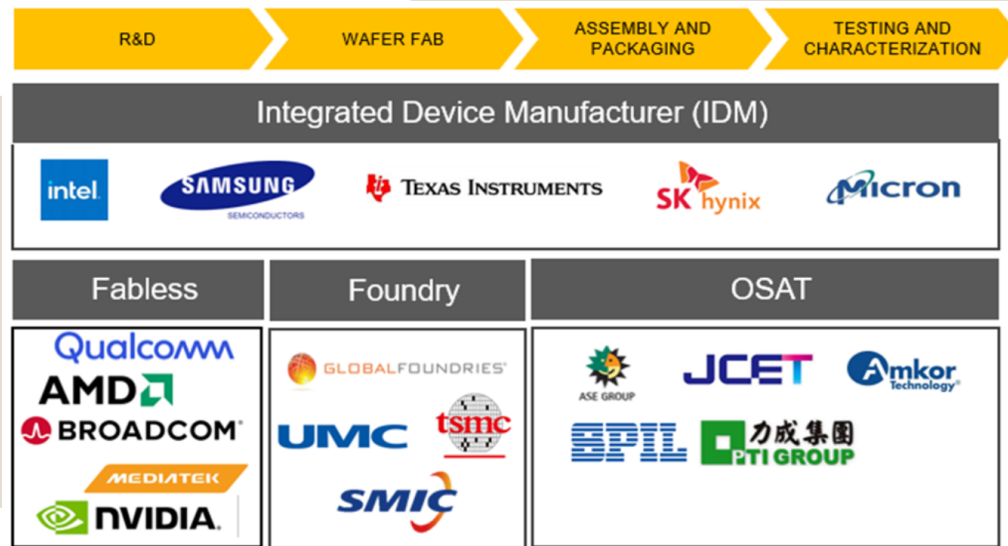
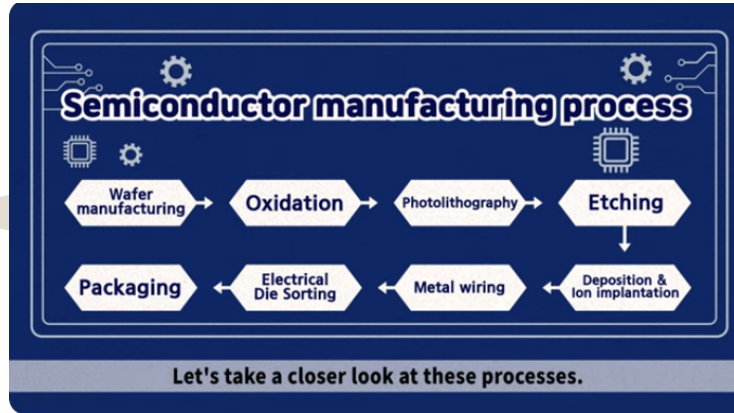
- I had no idea how chips are made
- I had no idea what consists of semiconductor industry

Let alone....

- Breadth and depth of Fluke products
- Where and how Fluke products are used in the semiconductor industry



Semiconductor ecosystem and manufacturing process is highly intricate...



Zoom in

Zoom out

# Different product lines have their own approach to the semiconductor industry.

## FPI



## IG

### Reduce Downtime, Maximize Output with Fluke Toolbelt Solutions



Inside a Semiconductor Fabrication Plant

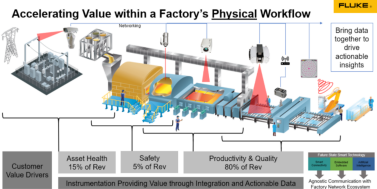
## FCal

### 3.2 Calibration Workload

Monitor and Control	R&D	WAFER FAB	ASSEMBLY AND PACKAGING	TESTING AND CHARACTERIZATION
<b>Basic Electrical Values</b>	Multimeters, power supplies, data acquisition systems	Voltage/current sources	Die bonders, wire bonders, power supplies, multimeters	Automated Test Equipment (ATE)
<b>Electronic Signals</b>	Oscilloscopes	Power analyzers		
<b>Electrical Parameters of materials</b>		Semiconductor parameter analyzers		Curve tracers, source measure units, Semiconductor analyzers
<b>Wafer, Substrate, Chamber &amp; Fluid Temperature</b>	Environmental chambers, ovens, furnaces, thermocouples, RTDs	Temperature controllers, wafer temperature monitors, thermocouples, RTDs, IR temp sensors	Reflow ovens, soldering stations, temperature controllers, thermocouples	Environmental chambers, wafer temperature controllers, thermocouples, RTDs
<b>Gas and Liquid Pressure</b>	Pressure transducers, vacuum gauges, barometers	Pressure sensors, vacuum gauges, leak detectors	Pressure sensors, pneumatic systems, vacuum systems	Pressure transducers, vacuum systems, pneumatic systems
<b>Gas Flow</b>	Mass flow controllers, flow meters, flow switches	Mass flow controllers, flow meters	Mass flow meters, flow controllers, flow switches	Mass flow controllers, flow meters, flow switches

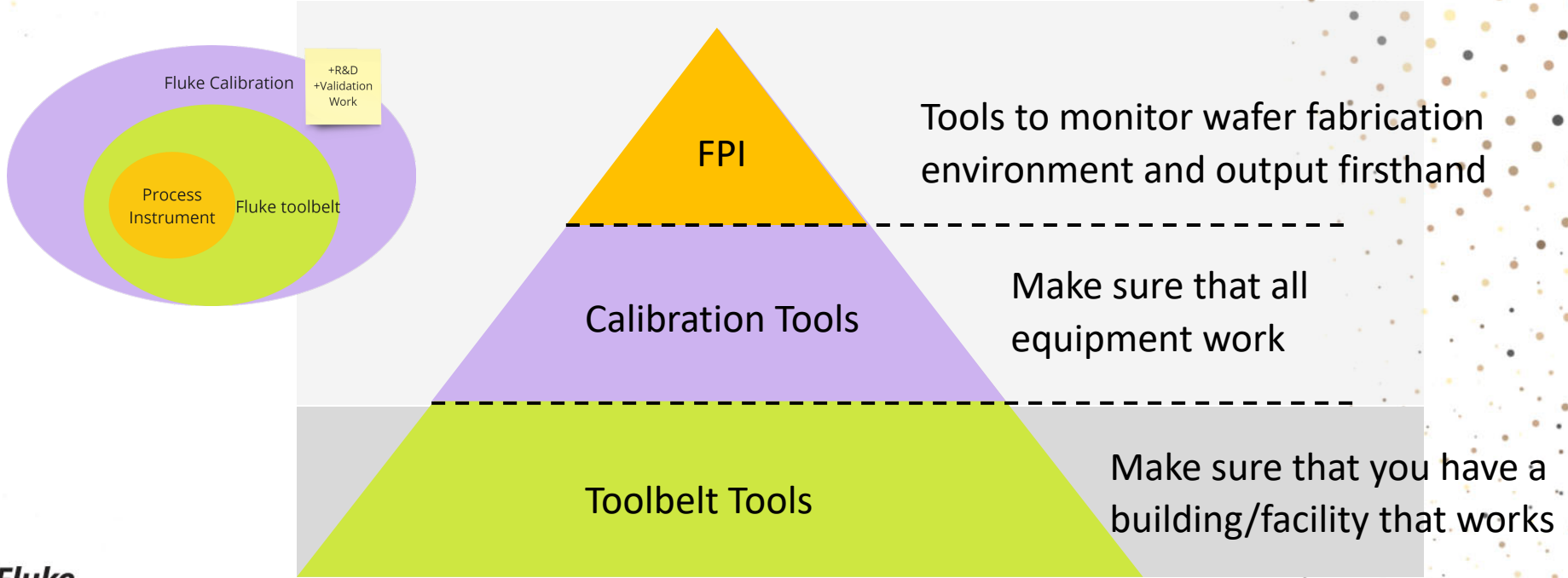
### 3.3. Fluke Calibration's Product and Service Offering

Workload Type	Laboratory reference standards (R&D and test)	Laboratory calibrators (outsourced OEM, R&D)	Field Calibrators (Sub fab floor maintenance shop)
<b>Basic Electrical Test</b>	8588A / 8558A DIMM 5730A Multifunction Calibrator	55X0 Multi-product Calibrator 52120A Transconductance Amplifier	754 Documenting Process Calibrator
<b>Electronic Signals</b>	5790A AC Measurement Standard	5622A Multi-product Calibrator w/ scope 9500B Oscilloscope Calibrator (Limited) 55X0A Multi-product Calibrator	
<b>Parametric Test</b>			
<b>Temperature sensors, ovens, and chambers</b>	5699 SPRT 1566A Super Thermometer 1620A Digital Thermo-Hygrometer	5628 Secondary Standard PRT 1596A Super-DIQ 6331 / 73XX Compact Baths	914X Field Metrology Well 1623A Handheld Thermometer
<b>Pressure sensors, transducers, &amp; systems</b>	Piston Gauges	6270A Automated Pressure Controllers	754 Documenting Process Calibrator 729 Automatic Pressure Calibrator 2700G Pressure Gauge
<b>Mass flow meters, controllers and switches</b>	MolBloc-L Laminar flow element MolBloc-S Sonic Nozzle Molbox1 + Flow Terminal		





# How I see all Fluke products fit together...



# Mockup

Page 1: One Stop Shop

## Building on 75 years of excellence and 40 years of semiconductor industry expertise

### Solutions for monitoring the output and environment

<b>Pyrometers</b> Best suited for: Fixed temperature measurement. 	<b>Linescanners</b> Best suited for: Edge-to-edge thermal imaging. 	<b>Thermal Imaging Solutions</b> Best suited for: 2D and 3D area mapping of temperature for automation. 	<b>Acoustic Imagers</b> Best suited for: Detect, locate, and visualize sound sources. 	<b>Thermal Profiling Solutions</b> Best suited for: Electronic soldering processes. 
---	--	---	---	---

Fluke products and solutions can cover the unique requirements of the highly competitive and intricate semiconductor industry.

Our wide range of products can test, measure, and calibrate the equipment used in semiconductor manufacturing. From research and development, fabrication to testing and assembly, Fluke tools can ensure that your facility and processes run smoothly and efficiently.

### Solutions for equipment verification and validation

<b>Electrical Calibrators</b> Best suited for: Test tool calibration. 	<b>Temperature Calibrators</b> Best suited for: Temperature sensors, ovens, and chambers. 	<b>Pressure Calibrators</b> Best suited for: Pressure sensors, transducers, and systems. 	<b>Flow Calibrators</b> Best suited for: Mass flow meter, controllers, and switches. 
---	---	--	--

### Solutions for troubleshooting and maintenance

<b>Fluke Networks</b> Best suited for: Optimizing, troubleshooting, and maintaining across LANs, WLANs, and wireless networks. 	<b>Process Calibrators</b> Best suited for: Measure pressure, temperature, and flow to help understand and improve your own digital manufacturing. 	<b>Electronic Test Tools</b> Best suited for: To help understand digital manufacturing better, use a variety of test tools to help you understand your own digital manufacturing. 	<b>Infrared, Acoustic, and Vibration Tools</b> Best suited for: Looking for abnormalities on the electrical system. Check for problems with the electrical system, such as loose connections, wires, and tools. 	<b>Air Quality</b> Best suited for: Monitor indoor air quality to ensure your facility is safe and healthy. 
--	--	---	---	---

Learn how Fluke solutions can save you time and money while increasing your productivity and performance by contacting your sales representative.

Copy of Page 2: Integrated Device Manufacturers (IDMs) Layout

Fluke Process Instruments										Fluke Calibration									
Temperature	Humidity	Pressure	Flow	Force	Mass	Length	Volume	Time	Frequency	Electric	Temperature	Pressure	Flow	Force	Mass	Length	Volume	Time	Frequency
Electric Calibration										Temperature Calibration					Pressure Calibration			Flow Calibration	

With a QM (Quality Management) System, Quality Control of chips in terms of functionality when sent to factory.

Second Company that is called QM.

Test & Measurement Calibration of Automated Test Equip.

Research & Development Unit.

Second Company that is called R&D.

Test and Measurement Calibration of Bench Equipment (combination of QM, electronic signal, and power supply of each equipment) more etc.

ESD 300V/100 for R&D.

Fluke Networks										Process Calibrators					Fluke Electronic Test Tools					Fluke Infrared, Acoustic, and Vibration Tools					Air Quality				

One stop shop

Product Synergy

# Final Deliverable

Building on 75 years of excellence and 40 years of semiconductor industry expertise

## Solutions for monitoring the output and environment

### Pyrometers

Best suited for:  
Fixed spot temperature measurement.



### Linescanners

Best suited for:  
Edge-to-edge thermal imaging.



### Thermal imaging solutions

Best suited for:  
IR and Visual area mapping of temperature for automation.



### Acoustic imagers

Best suited for:  
Detect, locate, and visualize sound sources.



### Thermal profiling solutions

Best suited for:  
Electronic soldering processes.



## Solutions for equipment verification and validation

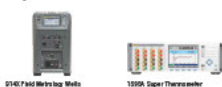
### Electrical calibrators

Best suited for:  
Test tool calibration.



### Temperature calibrators

Best suited for:  
Temperature sensors, ovens, and chambers.



### Pressure calibrators

Best suited for:  
Pressure sensors, transducers, and systems.



### Flow calibrators

Best suited for:  
Mass flow meter, controllers, and switches.



## Solutions for troubleshooting and maintenance

### Networking tools

Best suited for:  
Optimizing, troubleshooting, and maintaining across LANs, WANs, and wireless networks.



### Process calibrators

Best suited for:  
Measure pressure, temperature, and mA loop to troubleshoot and calibrate HART smart digital transmitters.



### Electronic test tools

Best suited for:  
To help analyze electrical signals on industrial bus or network to identify common faults.



### Infrared, acoustic, and vibration tools

Best suited for:  
Scanning for abnormalities in the electrical system. Checking for air/gas/vacuum/leak in pneumatic tools, process pipelines, valves, and tanks.



### Air quality

Best suited for:  
Monitor indoor vs outdoor pressure and measure filter efficiency and indoor air quality.

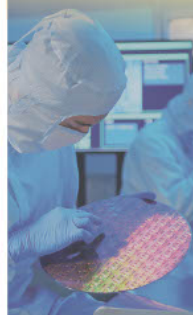


FLUKE.

Fluke products and solutions can cover the unique requirements of the highly competitive and intricate semiconductor industry.

Our wide range of products can test, measure, and calibrate the equipment used in semiconductor manufacturing. From research and development, fabrication to testing and assembly, Fluke tools can ensure that your facility and processes run smoothly and efficiently.

Learn how Fluke solutions can save you time and money while increasing your productivity and performance by contacting your sales representative.

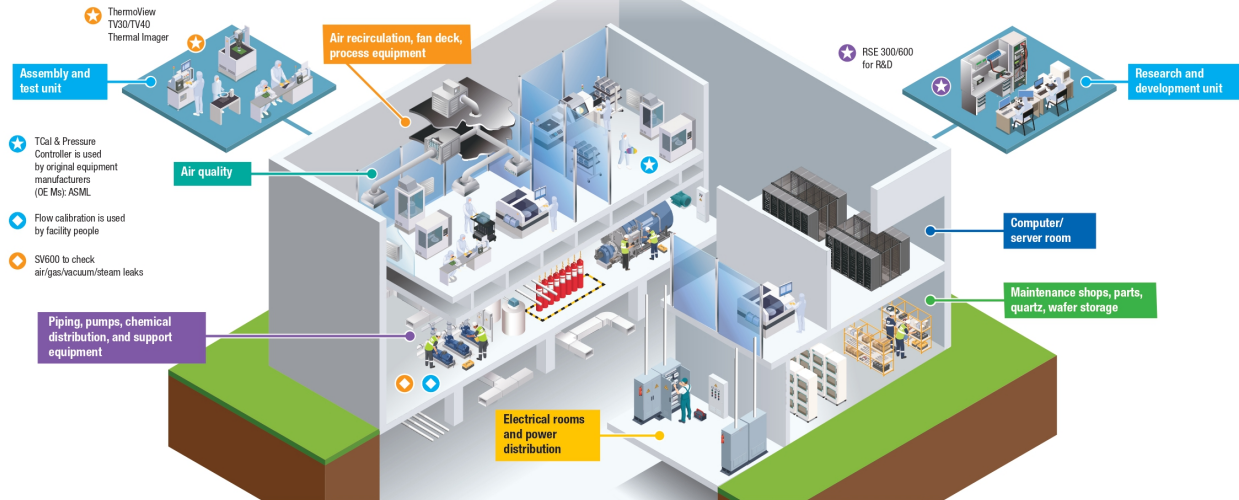


# Final Deliverable

FLUKE®

FLUKE®

Process instruments tools							Calibration tools						
Thermat 4.0 Pyrometer	Raytek M13 Compact Series Pyrometer	Endurance Series Pyrometer	MP LineScanner Series	ThermoView TV30/TV40 Thermal Imager	SV600 Fixed Acoustic Imager	Datalogic Reflow Tracker Thermal Profiling System	8588A / 8588A Multimeter	5560A Multi-Product Calibrator	9500B Oscilloscope Calibrator	1596A Super Thermometer	914K Field Metrology Weib	6270A Automated Pressure Controllers	moblo- L Laminar
							Electric calibration		Temperature calibration		Pressure calibration	Flow calibration	



Networking tools					Process calibrators		Electrical test tools					Infrared, acoustic and vibration tools				Air quality	
LANd Cable e Network Tester	SmartPower Pro Optical Power Meter	MicroScanner Cable Verifier Series	FiberLink LiveFiber Detector	OptiFiber Pro OTDR Family	Fluke 754 Datametering Process Calibrator	Fluke 87V Industrial Multimeter	Fluke 1770 Series Three-Phase Power Quality Analyzer	Fluke i250 Field Oscilloscope	Fluke 8T321 Multirated Battery Analyzer	Fluke 773 Millamp Process Clamp Meter	Fluke Thermal Imagers	Fluke i600 Series Industrial Acoustic Imagers	Fluke RSE 300/600 Mounted Infrared Camera	Fluke 810 Vibration Tester	Fluke 985 Particle Counter	Fluke 932 Airflow Meter	Fluke 971 Temperature Humidity Meter



# Business Impact

01

Drive double digit sales growth YOY

02

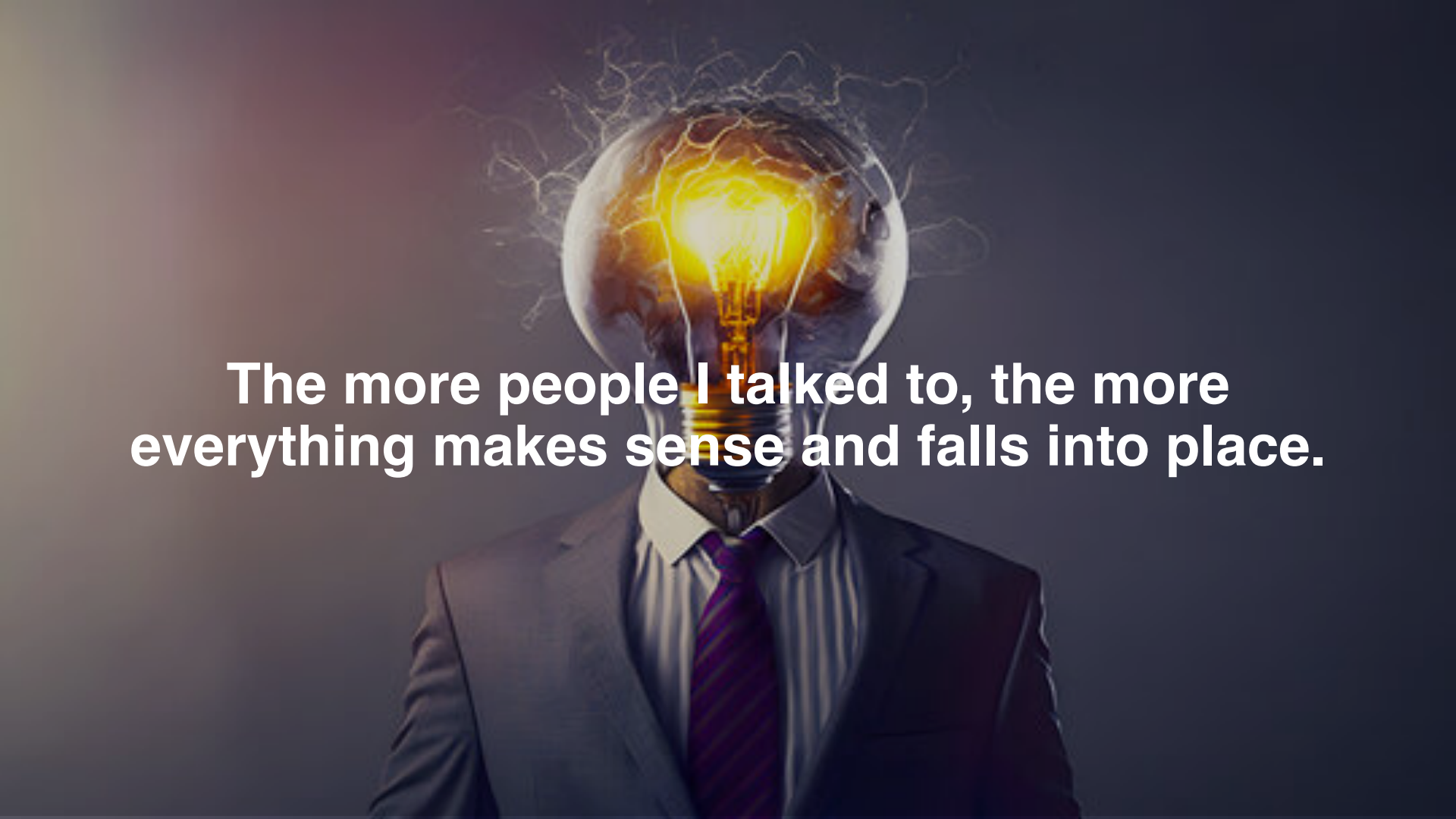
Raise awareness of Fluke's entire product portfolio

03

Promoting 1Fluke Concept and gain wallet share

Fluke



A conceptual image of a man in a dark suit, white shirt, and purple striped tie. Instead of a head, he has a glowing yellow lightbulb. The lightbulb is surrounded by faint, wispy lightning bolts, suggesting a bright idea or intellectual energy. The background is a dark, gradient blue.

**The more people I talked to, the more everything makes sense and falls into place.**

# The Innovator's DNA: Five Skills to Develop Your Creativity

Intern Week – Neal,  
Graeme, Ryan

Armin, Dana,  
Craig, Ron



Questioning



Networking



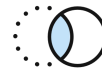
Experimenting

ChatGPT session with  
Adam Householder

Intern workshops –  
Lisa Graham and  
Ingrid Lancaster



Observing



Associating

Intern Week, Fluke  
Day, All hands, All  
employee meetings

# Expectations & Takeaways

Create a  
statement piece  
for my portfolio

Connect the dots

Work for a  
mentor-like  
manager

**Business:**  
commercial and  
product strategy

Be curious and  
ask questions.

Be proactive.  
Reach out and  
connect.

## Special Thanks To

- ***Armin Ausejo*** 🎉
- Allison Stephens
- Andrew Wilson
- Adam Householder
- Craig Hasse
- ***Dana Moses***
- Hanna Grech
- Hinal Dand
- Jackie Atkin
- Jim Shields
- Mike Slevin
- Mark Mullins
- Miki Mok
- Mihir Chavan
- Ron Ainsworth
- Sam Fletcher
- Wally Miller
- Ryan Peacock
- Neal Nowick
- Graeme Dickinson
- Lisa Graham
- Jeff Gust
- Interns
- Creative Services

**Thank you!**

Questions?