



DC RAINMAKER

THE YEAR IN REVIEW:

THE PAST, PRESENT & FUTURE OF DEVICES AND
APPS IN A WEARABLES WORLD

A BIT ABOUT ME

- I do this as a full time job. Finally.
- A sorta-competitive triathlete
- Oh, I live in Paris (France, not Texas)
- The Girl owns a cake shop
- The Baby runs the roost
- Oh, and the dog



A BIT ABOUT THE SITE

- Started in Sept 2007 as a personal blog
- All about in-depth technology reviews...but also first looks and previews
- Reviews are the primary initial driver of traffic
- Over 4.4 Million page views/month, 3.3 Million uniques/month
- 60K on Facebook, 40K on Twitter, 30K on YouTube
- Revenue based primarily on affiliate links
- No advertising from product segment I review

The screenshot displays the DC Rainmaker website interface. At the top, the site title "DC RAINMAKER" is prominent, with navigation links for "MY PROFILE", "ABOUT ME", "PRESS", "CONTACT", and "ADVERTISE". A search bar is located to the right of the title. Below the title is a horizontal menu with categories: "HOME", "BLOG", "PRODUCT REVIEWS", "2016 BUYERS GUIDE", "HOW-TO & TIPS", "RACE REPORT", "TRAVEL", "PARIS BLOG", and "QUEUE".

The main content area features a large image of a GoPro Hero5 Black camera mounted on a rock, with a date stamp "OCT. 5" in the top left corner. Below the image is the article title "GoPro Hero5 Black In-Depth Review" and a short introductory paragraph. To the right of the main article is a sidebar with social media icons (Twitter, Facebook, Google+, YouTube, Instagram, RSS) and a section titled "I'M DC RAINMAKER..." featuring a photo of the author with a bicycle and a short bio. Below that is a section titled "WANNA SUPPORT DCR?" with the text "BECOME A DCR".

At the bottom of the page, there is a row of small thumbnail images for other articles, including one titled "92 250 km to explore".

A BIT ABOUT THE READERS

- Biggest misconception: Not just endurance fitness geeks
- Fitness is primary driver: From starting a 5K to Olympians
- Editors of virtually all major sports and technology sites/magazines
- Staff, talent, and editors at many mainstream press papers/channels/shows
- Financial analyst community: Investors
- The people in this room: The sports tech industry
- Retailers, and distributors: The biggest and the smallest



LOOKING BACK TO 2010

- Wearables now carve a clear niche vs phones, don't directly compete
- Battery life has both improved and faltered
- Computer dependency has vanished
- Device recognize importance of partnerships...and media does as well.
- New file formats have largely vanished (and that's good)

Falling Back



01	01/01/2010	10	10.00	10.0000
02	01/01/2010	10	10.00	10.0000
03	01/01/2010	10	10.00	10.0000
04	01/01/2010	10	10.00	10.0000
05	01/01/2010	10	10.00	10.0000
06	01/01/2010	10	10.00	10.0000
07	01/01/2010	10	10.00	10.0000
08	01/01/2010	10	10.00	10.0000
09	01/01/2010	10	10.00	10.0000
10	01/01/2010	10	10.00	10.0000

Where Sports Technology Falters

- Quickly falling behind phones in feature set
- Offerings don't well match up to users demands – companies get 'so close'...and yet so far away
- Battery life barely sufficient (why no OEM battery packs?)
- Too much dependency on computers
 - Look at Withings WiFi scale for amazing example of connected services
- Not leveraging each other as much as could be – too many format variations and device silos – there's a reason it's called an 'ecosystem'
- Non-compatible new file formats slows device adoption

LOOKING BACK TO 2012

- GPS device quality has increased, but GPS accuracy is mixed
- Follow-through on firmware fixes has gotten better, and definitely more frequent
 - Though companies vary in methodology and success
- Nobody is really doing sharing of devices today (except weight scales)
- The price gap has vanished, many budget options today – even \$29 trackers

Frustrations for consumers today

Key comments I hear *daily*

- Product quality levels decreased in 2012, in particular, in the GPS device segment
- Frustration at lack of follow-through on firmware updates to fix issues, add features promised
 - Consumers want consistency – see Ambit and Motoactv updates
- Sharing of devices with family members – nobody is doing this today
- The price gap between cell phone apps and standalone devices, especially high end devices

LOOKING BACK TO 2014

- Bluetooth Smart compatibility for HR/speed/cadence greatly improved, power is still a rough spot
- Adoption of profiles improving, mostly.
- Trainer profile: Finally!
- Power Meter High Speed Data....Umm?
- Running Metric Standards? Nope.
- Cycling Metric Standards: Nope.

Suunto Ambit3 Bluetooth Smart Compatibility

Sensor Name	Sensor Type	Compatible?	Ambit3-specific Compatibility Notes
4iiii Viiiiva	Heart Rate only	No	Pairs, but can't find upon activity start
4iiii Viiiiva	Heart Rate + Running Footpod	No	Pairs, but can't find upon activity start
4iiii Viiiiva	Heart Rate + Power Meter	No	Pairs, but can't find upon activity start
4iiii Viiiiva	Heart Rate + Speed/Cadence Sensor	Partial	Displays cadence/speed, but not HR
Adidas Blueooth Smart Stride Sensor	Running Footpod	Yes	All good!
Kinetic Inride	Cycling Power Meter/Trainer	Partial	Power displays, no speed/cadence
Mio Link	Optical HR wrist sensor	Yes	All good!
Polar H7	Heart Rate	Yes	All good!
Pyle Sports Footpod	Running Footpod	No	Pairs, but can't find upon activity start
PowerTap BLE Cap	Cycling Power Meter	Yes	All good!
PowerTap BLE Speed/Cadence Sensor	Speed/Cadence combo sensor	Yes	All good!
Scosche Rhythm+	Optical HR armband sensor	Partial	Depends on firmware version
Stages Power	Cycling Power Meter	Partial	Base functionality works
Wahoo RPM (V1/V2)	Cadence Sensor	Partial	Cadence yes, but overrides GPS speed with 0-value
Wahoo Blue SC (v1)	Speed/Cadence combo sensor	Yes	All good!
Wahoo Blue HR	Heart Rate	No	Pairs, but can't find upon activity start
Wahoo TICKR	Heart Rate	Partial	Pairs, but finicky on finding sensor during activity
Wahoo TICKR RUN	Heart Rate, Running Cadence	Partial	Pairs, but finicky on finding sensor during activity
Wahoo TICKR X	Heart Rate, Running Cadence	Partial	Pairs, but finicky on finding sensor during activity

The door swings both ways: ANI +

- Adoption/Creation of profiles is simply taking too long
- Trainer Profile: Years in the making, no tangible adoption
- Power Meter High Speed Data: Going to BLE islands instead – Stages (or private ANT – Pioneer)
- Running Dynamics: Scribe Labs, Wahoo TICKR
- Cycling Dynamics: Could potentially bring clarity to the confusion of duplicate/non-clear metrics

THE LAST YEAR: WHAT HAPPENED?

- More people than ever before bought wearables: 100M units according to IDC estimates for 2016
- The Apple Watch didn't kill the wearable...
- Every single major vendor grew, even Apple
- Android Wear became a teenager
- New device types emerged, new technologies
- Mid-range devices got higher end features
- But mostly, it was solidification of the same



SOLIDIFICATION OF THE SAME

- Activity tracking is now dial-tone
- Sleep tracking is now dial-tone
- Optical HR is almost dial-tone
- Smartphone notifications are now dial-tone
- Smartphone apps connected to your platform is now dial-tone
- Basic platform interoperability is now dial-tone
- Exporting of data is now dial-tone



PUSHING OF BOUNDARIES

- Exercise recognition went from niche to mainstream
- New devices trying to capture existing data in new ways (TomTom Touch for Body Fat)
- New devices capturing new data in less intrusive ways (BSX LVL for Hydration)
- Beginning to see aerodynamic data 'stuff' happening (Alphamantis, Argon 18)
- Apps on wearables starting to find purpose
- Advancements in trainers, both in tech and price



NO LONGER FASHION VS FITNESS

- Fitbit continues to greatly expand fashionable bands and accessories
- Garmin makes a \$1,500 GPS watch
- Misfit and Polar have Swarovski lineups
- It's all about rose gold. Everyone has and wants rose gold: Samsung, Pebble, Motorola, Olio....and more!



IN MEMORIAM FOR THOSE WE LOST

- **Bia Smartwatches:** Almost ahead of it's time
- **Timex Smart Watches:** Behind the times
- **Magellan Wearables:** Corporate tug of ware
- **Basis Wearables:** Welcome to Intel!
- **Microsoft Band:** Disconnect with the market



THE LAST YEAR: OPTICAL HR

- Optical HR Exploded – It's now default
- Accuracy improving, but still model specific
- Changing consumer impressions is critical
- 24x7 HR becoming the norm
- Yet workout HR still struggles, gym especially
- Companies trying out different sensors



THE LAST YEAR: THE STANDARDS

- ANT+ FE-C got widespread acceptance for trainers
- Power meters on Bluetooth Smart got better (but still not perfect)...
- ...but power meter standards actually diverged as a whole
- Running metrics now all over the map – no longer standards there



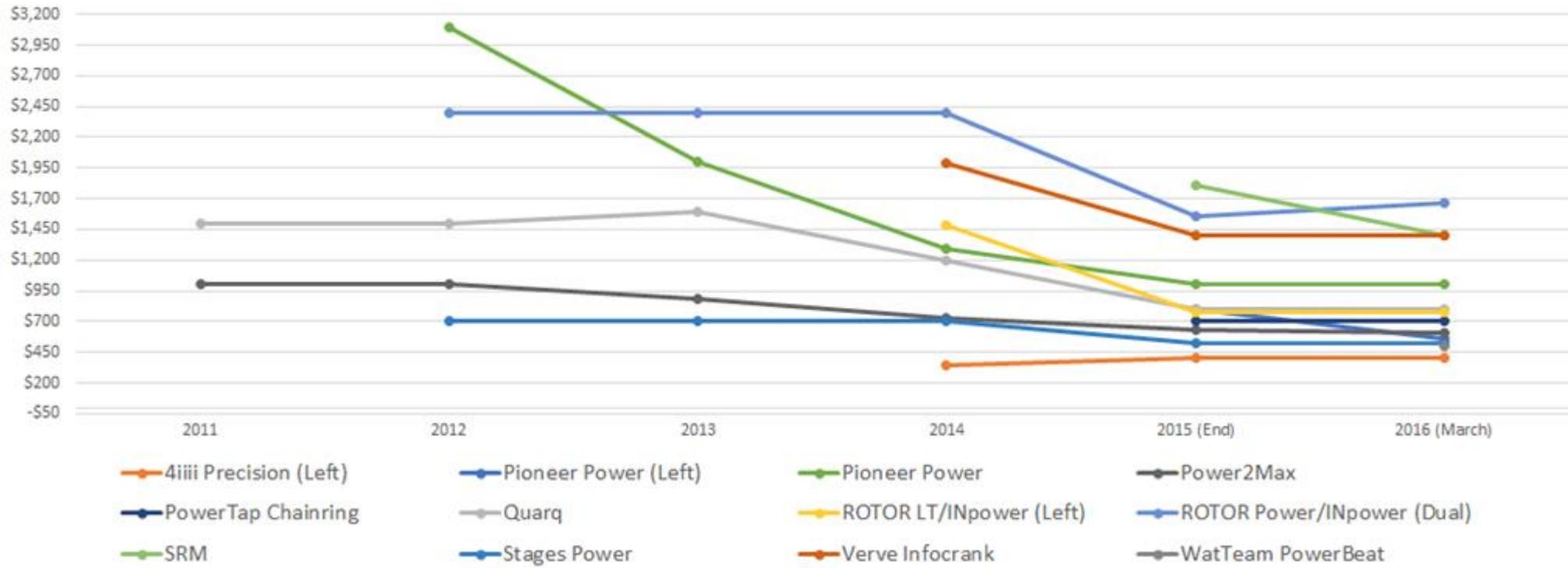
THE LAST YEAR: CYCLING DEVICES

- Numerous new head units that are truly competitive with innovative tech:
 - Wahoo ELEMNT (Best Bike Split)
 - Stages Dash (Recording of PM cal data)
 - Lezyne's lineup (Better quick nav)
 - Polar's M450 (Price point)
- New product categories: Quarq Qollector
- Clarity in wireless/electronic shifting



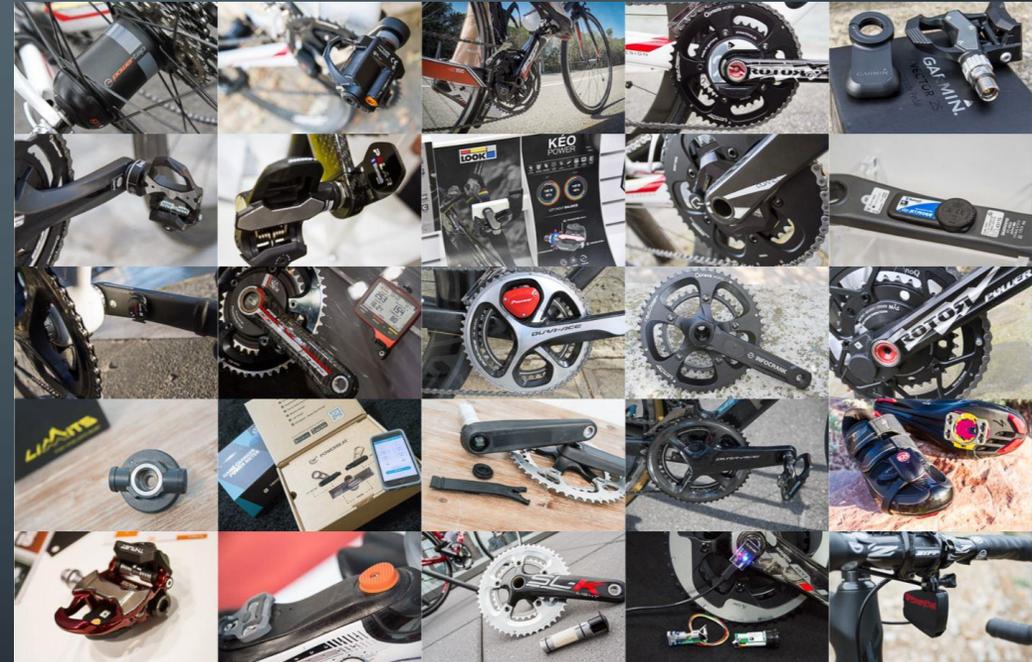
THE LAST YEAR: POWER METERS

Power Meter Crank Region: 2011-2016



THE LAST YEAR: POWER METERS

- Power meters are still really hard
- The bar isn't getting easier though
- Yet, more new brands and models continue to expand
- Saw price start to temporarily stabilize this summer, expect will hold till spring
- All eyes on WatTeam
- New business models for power meters



THE LAST YEAR: TRAINERS

- The most innovate thing group I saw this year
- Innovation in tech: Road patterns
- Innovation in stability: Accuracy
- Innovation in price: Affordability
- Trainer companies understanding more is not better
- Oh...and then that one company.



THE LAST YEAR: FITNESS PLATFORMS

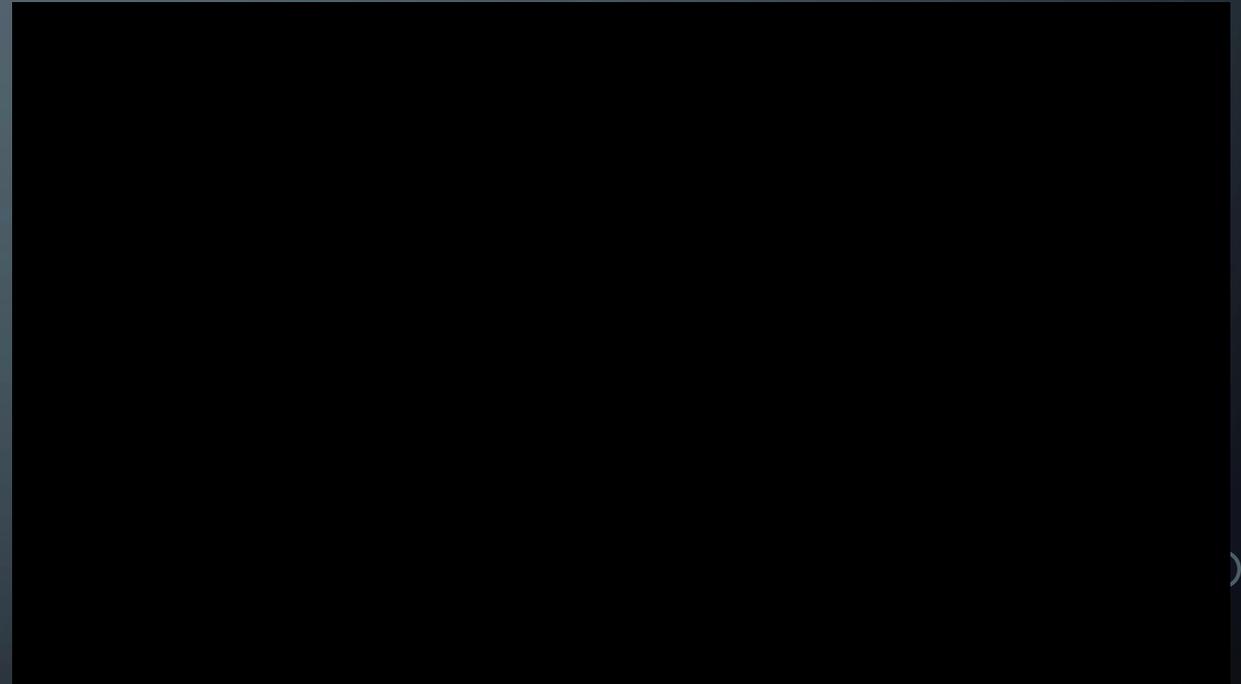
- What is a platform? Is an app with a cloud a platform?
- Still...a bit of stagnation
- The race to be bought!
- How much are your humans worth?
- On the bright side, integration between platforms has crept forward
- In fitness, Strava and MyFitnessPal reign king

The screenshot shows the Strava website interface for a specific run activity. The page is titled "DC Rainmaker - Run" and shows a distance of 4.1 miles, a moving time of 38:54, and a pace of 9:27/mi. The activity was recorded on Wednesday, October 5, 2016, at 6:35 AM. The page includes a description, a list of participants, and a "Runs on this Route" section. A "Splits" table is also visible, showing pace and elevation data for each mile.

Mile	Pace	GAP	Elev
1	8:19 /mi	8:42 /mi	-141 ft
2	10:49 /mi	9:49 /mi	-3 ft
3	9:12 /mi	9:01 /mi	-10 ft
4	9:40 /mi	8:10 /mi	164 ft
0.1	7:53 /mi	8:05 /mi	-10 ft

THE LAST YEAR: ACTION CAMS

- Finally: A competitive market!
 - GoPro vs Garmin...vs DJI?
- But...tons of lower-cost options creeping in.
- Platforms matter and apps really do matter: Today was an example of that
- Drones are about to do to cameras what phones did 10 years ago (GoPro understands this)
- Don't mistake DJI as a drone company. It's an imaging company.

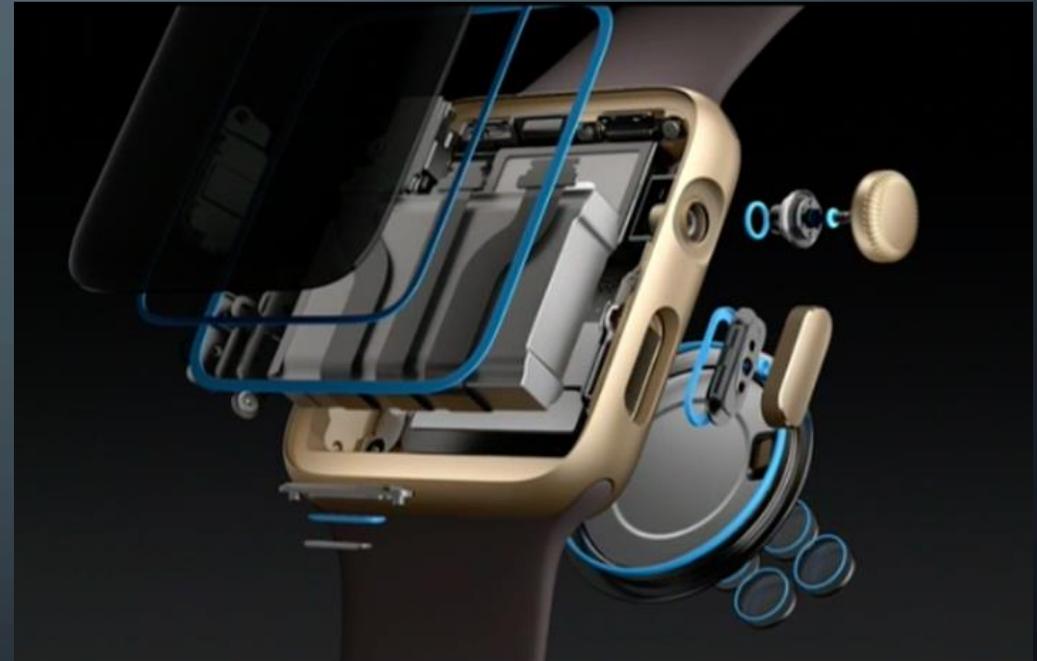




MOVING TO THE FUTURE: WHAT'S NEXT?

GOING FORWARD: WEARABLES

- Optical HR will get closer to dial-tone in accuracy
- New data metrics beyond just HR will start to become common-place
 - But that requires Fitbit or Garmin
- Opportunity for voice control in lower range and mid-range wearables (ala Siri, OK Google, Amazon, and others)



GOING FORWARD: GROUPS

- The Peloton bike for connected groups
- Zwift: It's like saying Strava with a Z
- Cycling studios – getting closer
- Online massive events – See what Kinomaps announced today



GOING FORWARD: CYCLING

- Bike sensors, bike sensors, bike sensors
- Did I mention sensors?
 - Fit Focused: Pioneer's example, integration with power meters (Verve, PowerTap)
 - Aerodynamics
 - Everything focused: 16 Sensors on the Argon 18 Bike
- But these lack a standard. If you take nothing away from today, take away this point.
- On-bike lighting and related products (i.e. radar), combo lights/cams, etc...



GOING FORWARD: STANDARDS

- Platforms like Connect IQ are great for diversification and users, but actually are bad for forcing standards of data
- Need to find balance in ensuring most popular data types quickly find a standard
- Without a standard, you won't have platform adoption



GOING FORWARD: PLATFORMS

- More premium focused integrations – companies realizing eventually they have to make money
- A slowdown in consolidation
- Big data opportunities for making sense of the data
- Platforms have to find ways to not just collect data, but make it useful for consumers



GOING FORWARD: ACTION IMAGERY

- Massive growth happening, and potential
- Action cams, drones, and combinations of them
- The race to make a smaller, quieter drone
- The race to increase quality in the most durable



THE BIGGEST OPPORTUNITIES

- Finding a way to make data and services relevant: Be it general health, getting faster, or taking a better selfie from a drone
- Capitalizing on integration between 3rd party platforms and devices
- By increasing accuracy you increase trust of consumers in your products – accuracy is being noted by mainstream media now
- Oh...and just make cool shit.



The background is a dark blue gradient. In the four corners, there are white, stylized circuit board traces. These traces consist of straight lines that turn at right angles, ending in small white circles, resembling electronic components or nodes on a board.

HOW I DO REVIEWS

TYPES OF POSTS

- 'First Look' posts & Initial Hands-On posts
 - Typically trade-show driven posts (not reviews)
 - Last-minute posts, 1-3 days pre-launch (not reviews)
 - Designed to explain product, usually based on pre-release hardware/software
- In-Depth Reviews
 - Full in-depth review with final product/software



WAYS TO ENGAGE WITH ME

- **Method 1:** NDA discussions/product access, far in advance of product release, private beta feedback.
- **Method 2:** Product launch timed review. Pre-availability product usually under NDA until public announcement.
- **Method 3:** Post-release review (already in market product). Usually less time sensitive.



The background is a dark blue-grey color. In the four corners, there are decorative white line-art patterns resembling circuit traces or a stylized tree structure. These patterns consist of vertical lines that branch out horizontally and then vertically again, ending in small circles.

THANKS!
(I'M HERE TILL FRIDAY MORNING)

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