



DC RAINMAKER

THE YEAR IN REVIEW...2017 EDITION:

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

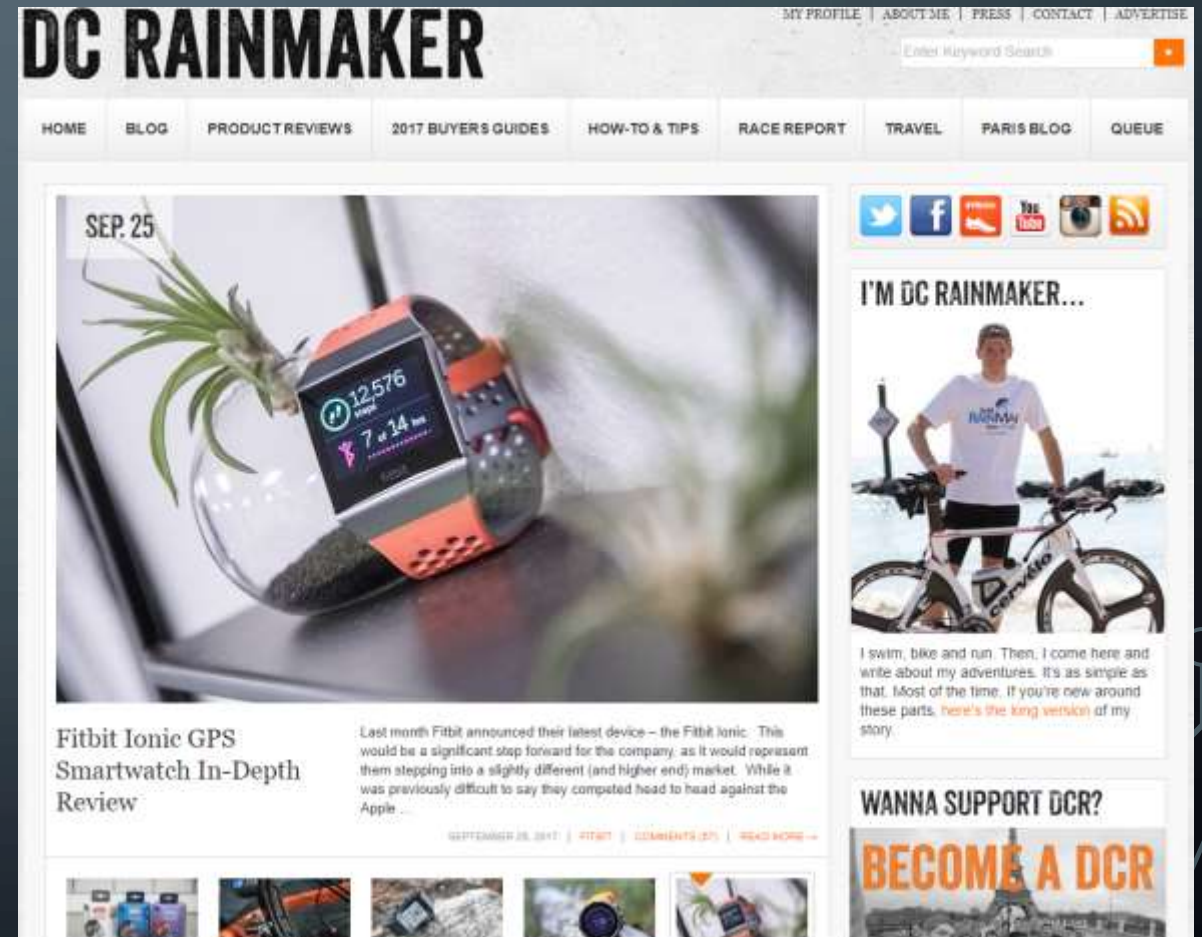
A BIT ABOUT ME

- 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 Million page views/month, More than 3 Million uniques/month
- ~80K on Facebook, ~50K on Twitter, ~50K on YouTube
- Revenue based primarily on affiliate links
- No advertising from product segment I review



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



IN MEMORIAM FOR THOSE WE LOST

- 2017 to date:

- Recon Jet: Welcome to Intel!
- Intel Wearables Division (the whole thing)
- BSX Insight: Got distracted
- Jawbone wearables: Profitability is hard
- CompuTrainer: No innovation
- Brim Brothers: Power meters is hard
- Adidas: Wearables are hard

- 2017 On Life Support?

- LVL: Gonna get messy
- Mio Wearables: Too slow to get to market.
- Mio Cyclo: When was the last product?
- TomTom Wearables: Well that's awkward.

2017 IN REVIEW: STABILIZATION

- Stabilization doesn't mean lack of innovation
- Stabilization in the marketplace:
 - Wearables – high end
 - Wearables – low end
 - Action cams
 - Drones
 - Power Meters
 - Trainers



WE ESTABLISHED THE BASELINE

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



NOW IT'S ALL ABOUT THE HEART

- Stress metrics
- Fitness age metrics
- Recovery metrics
- Training Load metrics
- Training Effect
- VO2Max
- Then shifting the data into sleep and guided health coaching/programs



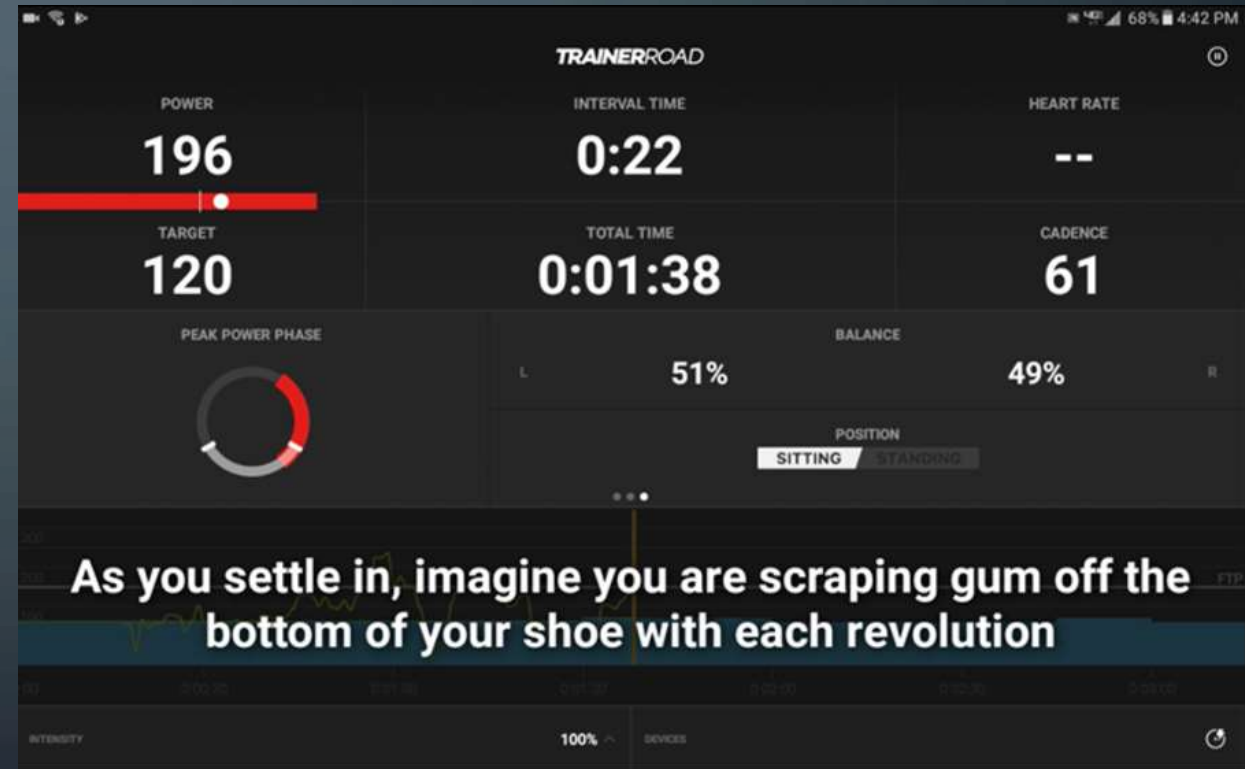
A SLIGHT RETREAT FROM FASHION

- Last year everyone released fashionable accessory bands and watches
- This year, a more reserved approach
- Fitbit dramatically reduced Ionic bands
- Many brands shy away from fashion-partners
- Aligning of clothing brands to watches:
 - Nike to Apple
 - Adidas to Fitbit



THE LAST YEAR: THE STANDARDS

- Saw adoption of new standards like ANT+ Running Dynamics Standard
- ANT+ FE-C became dial-ton one all but one trainer
- Bluetooth FTMS for trainers is quickly rolling out
- Bluetooth power (still) is messy. Nobody plays well yet in a dependable manner.
- Advanced Cycling Metrics...finally...progress!
- Running power is still in the infancy phase, but moving quickly



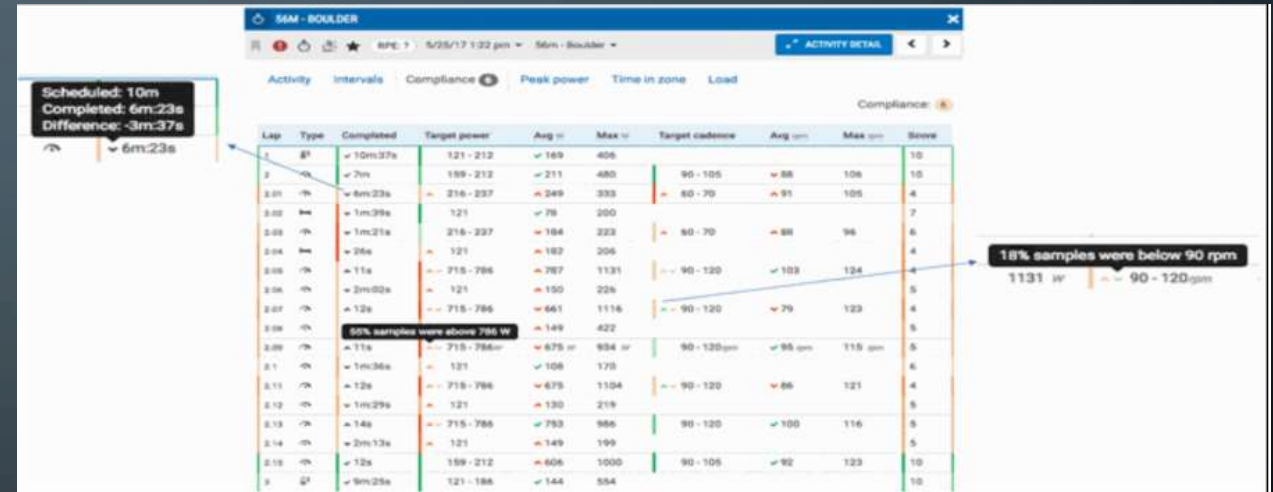
THE LAST YEAR: CYCLING DEVICES

- The mid-range war begins
 - Garmin vs Wahoo
- But a greater battle is brewing
 - Hammerhead
 - Stages
 - ...and more
- Starting to see progress on routing/navigation
 - Hammerhead & Strava ingest
- Seeing more connected areas – like helmets (COROS and others)
- Power meter stabilization
- Connected Lighting – lots of cool options



THE LAST YEAR: STRUCTURED WORKOUTS & COACHING

- Long been the forgotten
- More than just training plans
- Huge shift to structured workouts across all device markets
- Fitbit offering guided coaching programs and general health coaching
- Stages/Today's Plan doing much better mid-workout guidance
- Companies finding ways for consumers to increase value from their devices...as premium services.



THE LAST YEAR: AERODYNAMICS

- Numerous players getting into the market
 - Notio (aka Argon 18)
 - Alphamantis (aka Garmin)
 - AeroLab (aka not bought yet)
 - Velosense
 - ...and more.
- The trick will be making things tangible
 - Multi-tier approach makes most sense
 - Notio Tiers Appropriate example



THE LAST YEAR: POWER METERS

- Quietness from startups
- It's a tough market:
 - LIMITS, RPM, Look/Polar, Ashton Instruments, Luck, Dyno Velo, Xpedo
- Yet teenagers have thrived:
 - 4iiii, Stages, ROTOR, Pioneer, Verve, Favero
- And the biggies continue to push forward with new products, just at a relaxed pace
- Opportunity to leverage advanced metrics...just need to figure out how.



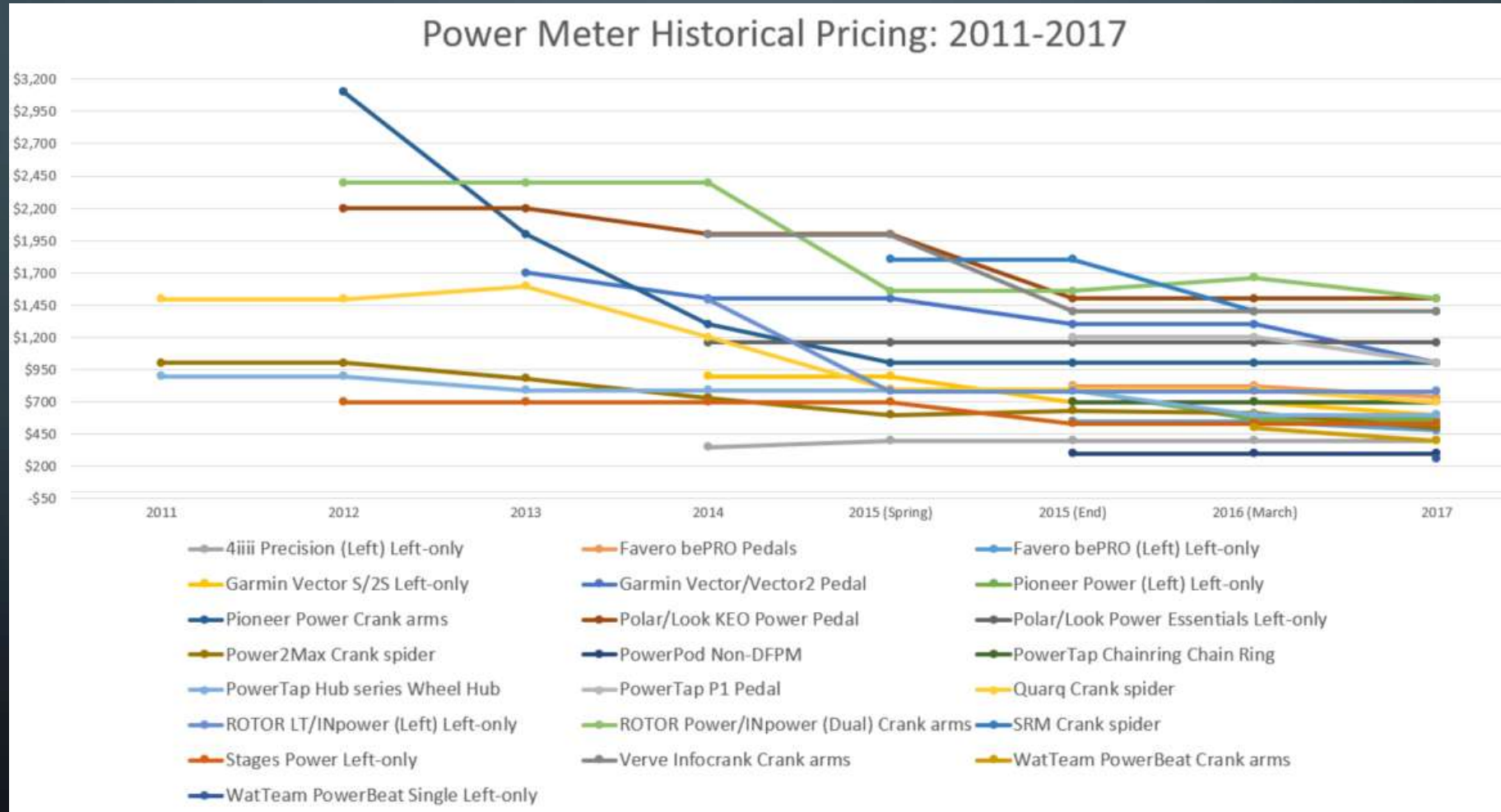
POWER METERS GET CHEAPER (AGAIN)

Power Meter Historical Pricing: 2011-2017

The chart displays the historical pricing of various power meter models from 2011 to 2017. The Y-axis represents the price in US dollars, ranging from -\$50 to \$3,200. The X-axis shows the years from 2011 to 2017, with specific markers for 2015 (Spring) and 2015 (End). The chart tracks 18 different power meter models, most of which show a general downward trend in price over the six-year period.

Legend:

- 4iiii Precision (Left) Left-only
- Garmin Vector S/2S Left-only
- Pioneer Power Crank arms
- Power2Max Crank spider
- PowerTap Hub series Wheel Hub
- ROTOR LT/INpower (Left) Left-only
- Stages Power Left-only
- WatTeam PowerBeat Single Left-only
- Favero bePRO Pedals
- Garmin Vector/Vector2 Pedal
- Polar/Look KEO Power Pedal
- PowerPod Non-DFPM
- PowerTap P1 Pedal
- Verve Infocrank Crank arms
- Favero bePRO (Left) Left-only
- Pioneer Power (Left) Left-only
- Polar/Look Power Essentials Left-only
- PowerTap Chainring Chain Ring
- Quarq Crank spider
- SRM Crank spider
- WatTeam PowerBeat Crank arms



THE LAST YEAR: TRAINERS

- It was a mostly quiet year, a regrouping year.
- Elite Direto the obvious 'winner' in terms of balance price vs function
- A slow shift to an Apple-like yearly release schedule
- All eyes on trainer apps, how best to leverage them



THE LAST YEAR: TRAINER EXPERIMENTATION

- A bike became a rodeo machine
- A treadmill became a trainer
- Wattbike halved their price to make an better product
- Premium products at a premium price...and consumers want it.



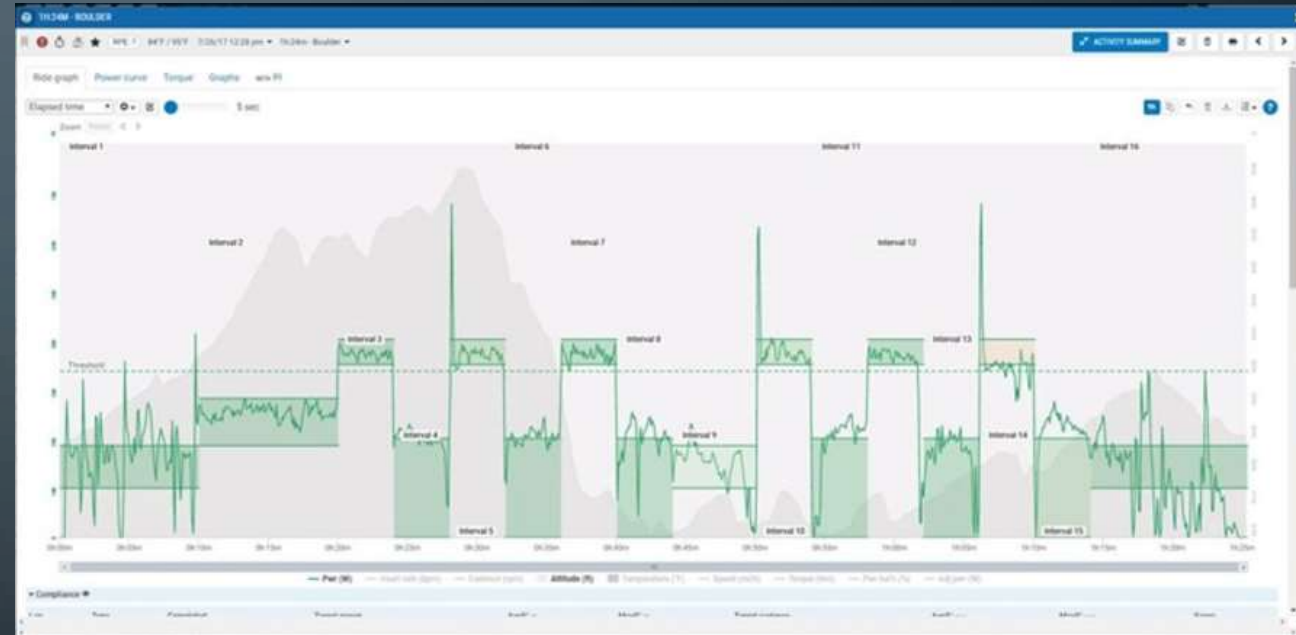
THE LAST YEAR: TRAINERS + INDOOR BIKES

- And then we got a new category...sorta.
- My definition:
 - ANT+ FE-C
 - Bluetooth FTMS
 - Or your name is Peloton.
- But it's not viable at the predicted rates
- There's no demand for 5-10 brands doing high-end indoor bikes
- Peloton market does not equal Zwift market



THE LAST YEAR: FITNESS PLATFORMS

- All is quiet, no acquisitions
 - Under Armour our ran out of people to buy
- Flourishing of newish training platforms
 - Final Surge
 - Today's Plan
 - Rebranded variants
- Focus on structured workouts
 - Garmin sync to multiple platforms
 - Wahoo sync to multiple platforms



THE LAST YEAR: ACTION CAMS

- 360* Action Cams are the 2017 'thing to do'
 - But finally, high quality resolution
- Lower end cameras seem to be flat-lining a bit, likely due to cell phones
- Software is taking center stage as most important element
- Drone pricing has dropped dramatically



A decorative graphic on the left side of the slide, consisting of a series of vertical and diagonal lines of varying thicknesses, some ending in small circles, resembling a stylized circuit board or a tree structure.

MOVING TO THE FUTURE: **WHAT'S NEXT?**

GOING FORWARD: WEARABLES

- Continued work on optical HR
- Need to ensure GPS accuracy isn't sacrificed for battery life/size
 - Perhaps new chips in 2018 will help
- Going to see more poorly done studies on wearables
- Companies need to get smarter on how to work with academics and media

If you are testing Ionic against another product and using them both at the same time, it is important to test with only one device per arm and then switch and conduct the same tests to ensure a fair and more technically accurate comparison. This gives all devices the ability to test against the same arm and ensure the heart rate reading is in the optimal location (see best practices for optimizing PurePulse® tracking below). Two or more devices can actually knock against each other (or slide over time and then knock each other) and those kinds of collisions are not good for testing, nor realistic usage conditions. Having multiple devices on a single arm preferentially biases performance toward the devices that are closer to the elbow because heart rate signal quality tends to be better the further toward the elbow you go. To be most scientifically precise, you should conduct multiple trials of the device in different placements for the most accurate review.

GOING FORWARD: GROUPS

- Both indoors and outdoors
 - Some of this with group tracking outdoors on Garmin/Wahoo
 - Still a bit of an afterthought
- Indoor potential to mix live video *with* gaming
 - Right now it's either/or
- This will likely further endanger cycling studios, who need to reduce friction
 - Technologically (i.e. getting a bike setup)
 - Logistically (signing up for classes)
- Studios that do a good job of making you 'crave' will be winners (i.e. Soul Cycle).



GOING FORWARD: CYCLING

- Aero is the biggest new potential area for the next year
 - Like power meters all over again...if done right.
- Tire sensors could be, if standards support it
 - Requires head units to matter
- Further reductions in power meter costs
- More head unit battles ahead, as new brands mature



GOING FORWARD: STANDARDS

- We're likely going to see faster adoption in 2017 of existing private protocols into standards
- Companies still have to compromise, but the benefit will far outweigh minor competitive advantages
 - A private protocol shouldn't be considered a competitive advantage
- At the same time, I think standards are getting to a good place for the most part
- Interoperability between platforms is the bigger challenge next year



GOING FORWARD: PLATFORMS

- Consumers are demanding everything work with everything
- Platforms like Strava and TrainingPeaks are considered baseline requirements
- They want more than just file sharing
 - Sleep data sharing
 - Step sharing
 - Weight scale sharing
 - Structured workout sharing



GOING FORWARD: ACTION IMAGERY

- Figuring out how to make 360* video consumable to the mass market
 - Again, 360 isn't VR, and it isn't AI.
- Action cam accessory market
 - Gimbals are commonplace
 - New accessories to capture cool things
- Drones will continue to shrink in size — but also get quieter
 - Quiet is the key to mass market acceptance
 - DJI's new low-noise props



THE BIGGEST OPPORTUNITIES

- Cross-platform partnerships
 - Example: Strava & Garmin partnership was a huge boon to both
- Making devices that users crave — aspire to own
- Finding ways to make budget devices that don't feel like budget devices
 - Let the platform sing to ride the device tide
- Oh...and just make cool shit.



The background is a dark blue gradient. In the corners, there are white line-art illustrations of circuit boards or neural networks, with lines connecting to small circles.

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.



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Thanks!

(I'M HERE TILL FRIDAY MORNING)

Contact info:

www.dcrainmaker.com

The Twitter: [@dcrainmakerblog](https://twitter.com/dcrainmakerblog)