



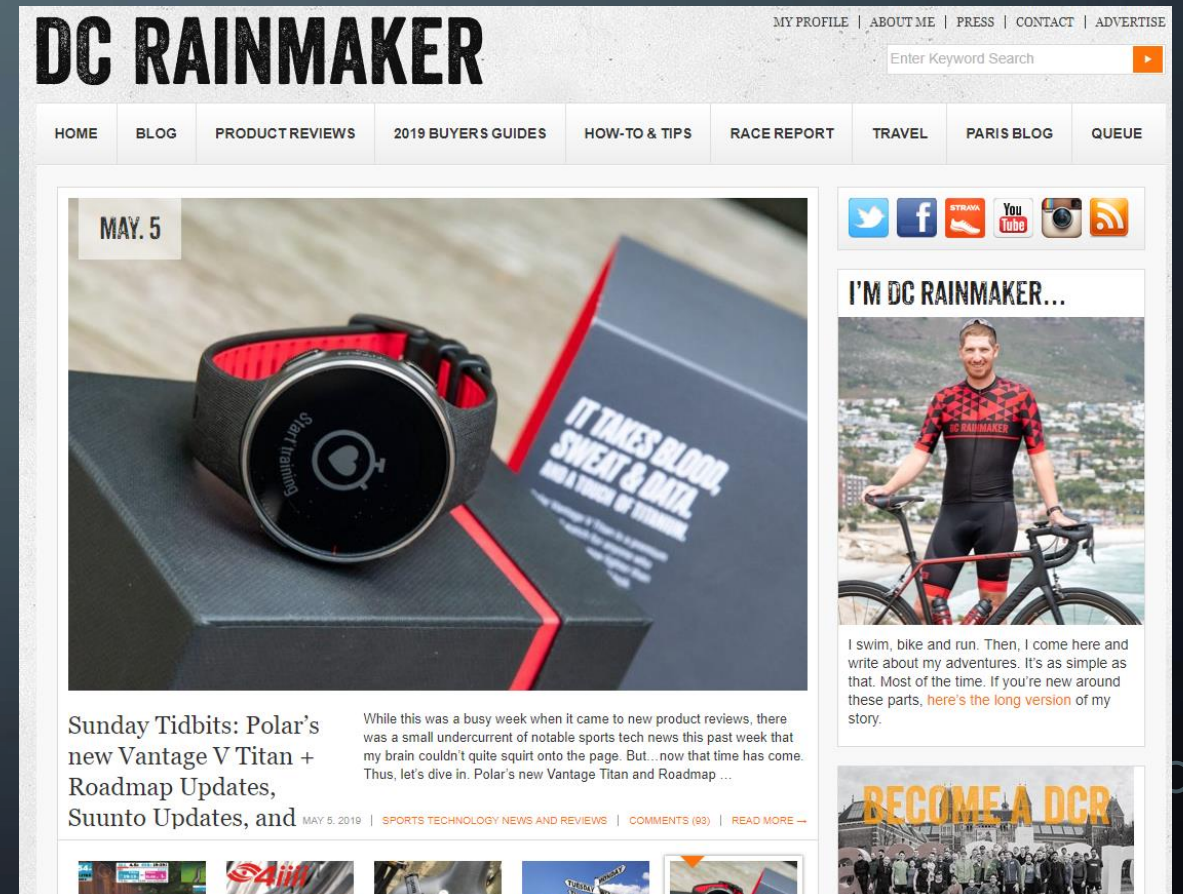
# DC RAINMAKER

LESSONS LEARNED IN THE PAST YEAR

OF SPORTS TECH

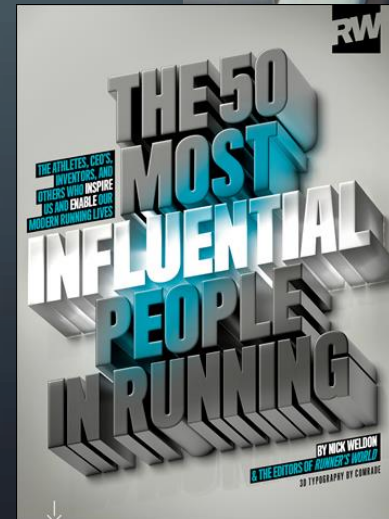
# A BIT ABOUT THE SITE

- 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
- More than 3 million views per month
- ~85K on Facebook, ~55K on Twitter, ~110K on YouTube
- Revenue based primarily on affiliate links
- No advertising from product segment I review



# A BIT ABOUT ME

- I do this as a full time job
  - Changed in 2016 from hobby to full time job
- A sorta-competitive triathlete
  - Being part of your niche is important
- Born in US, been living in Europe for 7 years now
- I love picking apart things – why they tick, why they fail



**The Man Behind the DC Rainmaker Gear-Review Empire**



# 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



# WHAT IS SPORTS TECH?

- Anything with a chipset inside that's used in sports/fitness
- My main areas of focus:
  - Wearables (of all sorts)
  - Cycling devices
  - Swimming devices
  - Action Cameras
  - Drones
- Wrist based devices
  - Activity Tracker Bands
  - Watches with a watch face
  - Small motion/HR sensors
- Upper arm devices
  - Largely heart rate sensors
  - Also muscle oxygen devices
- Chest devices
  - Heart Rate sensors (clothing and separate)
  - Motion capture sensors
- Lower body devices
  - Muscle Oxygen
  - Motion capture (running efficiency)

# THE “WEARABLE TECH” INDUSTRY

**Top 5 Wearable Companies by Shipment Volume, Market Share, and Year-Over-Year Growth, 2018** (shipments in millions)

Company	2018 Shipments	2018 Market Share	2017 Shipments	2017 Market Share	Year-over-Year Growth
1. Apple	46.2	26.8%	33.1	24.5%	39.5%
2. Xiaomi	23.3	13.5%	16.1	11.9%	44.6%
3. Fitbit	13.8	8.0%	15.4	11.4%	-10.0%
4. Huawei	11.3	6.6%	4.6	3.4%	147.3%
5. Samsung	10.7	6.2%	5.8	4.3%	85.1%
Others	66.8	38.8%	60.0	44.4%	11.2%
<b>Total</b>	<b>172.2</b>	<b>100.0%</b>	<b>135.0</b>	<b>100.0%</b>	<b>27.5%</b>

Source: IDC Worldwide Quarterly Wearables Tracker, March 5, 2019

\*\*\* Beware of taxonomy caveats of this/like data \*\*\*



# JUST A NORMAL BIKE RIDE

- 3 Power Meters
- 3 GPS Bike Computers
- 3 HR sensors/straps
- 2 GPS Watches
- 2 Tire Pressure sensors
- Bike Lights
- Connected Helmet
- Electronic Gear Shifting
- Speed Sensor
- Action Camera
- Drone



# THE TRENDS OF SPORTS TECH

- Data, data, data: It's all about the data
- Making devices that people want to wear — that look fashionable, but not over the top
- Making devices that are easy to use, that feel natural
- Solving real-world health problems
- Driving people to music they love
- The platform drives the device experience
  - Disconnect your phone from Apple Watch, what happens?





# WHAT'S THE NORM THESE DAYS?

Baseline	Apple	Fitbit	Garmin	Polar	Samsung	Suunto
Activity Tracking	X	X	X	X	X	X
Sleep Tracking	-	X	X	X	X	X
Optical HR	X	X	X	X	X	X
Smartphone Notifications	X	X	X	X	X	X
Platform Interoperability	X	X	X	X	X	X
Data export	X	X	X	X	X	X
Contactless Payments	X	X	X	-	X	-
Music on watch	X	X	X	_*	X	-
Medical Features	X	Sorta	Sorta	-	Sorta	-

# MUSIC SERVICES IN A COLD WAR

- Music services using wearables as a proxy for their own platforms
- Music providers need to be like social networks – easily accessible from any device no matter where a user is
- Music providers have to be where the users are, or they'll get left behind
- Up until about 6-8 months ago, companies would fight within their walls. Those walls are now being torn down as fast as possible
  - Spotify change in tone
  - Apple Music shift to include Android



# MUSIC SERVICES ARE KEY TO PEOPLES HEARTS



**Pascal**

October 3, 2018 at 6:03 pm (Edit)

Is Apple music also supported?



**Basile**

October 3, 2018 at 6:26 pm (Edit)

Cool.

Do you have anything to share on **Google play music integration plans**? Would **definitely be the trigger** to finally update my dying fenix 2 :)

Reply

#17



**Alex C** 18 hours ago 0 subscribers

This is great news. Would love to see support for YT Music too



2



REPLY



**Petr Stránský** @PetStransky · 19h

Replying to @dcrainmakerblog

And what about Google Music? Will also be support



1



Like · Reply · Message · 511



**DignifiedWaffle** 14 hours ago 0 subscribers

Now that Spotify is sorted I guess its time to start nagging about Google Play Music.



1



REPLY



**Christof Damian** @cdamian · 8h

Replying to @dcrainmakerblog

Hey @GooglePlayMusic , how about this? I really don't want to switch to Spotify.



**Nick Radov** Pandora why don't you have your service working Garmin devices yet?

Like · Reply · Message · 15h



**eagerprocrastination** 1 point · 3 hours ago



Doesn't have Spotify or Google music offline, which are the top two music services.

My point was that spending \$800+ for offline music isn't necessary.

Reply · Share · Report · Save · Give gold



# MUSIC SERVICE WEARABLES ADOPTION

Platform	Apple	Fitbit	Garmin	Samsung	WearOS
Apple Music	Yes	-	-	-	-
Amazon Music	-	-	-	-	-
Deezer	_*	Yes	Yes	-	_*
Google Music	-	-	-	-	Yes
iHeartRadio	_*	-	Yes	-	-
Pandora	Yes	Yes	-	-	Yes
Spotify	In progress*	-	Yes	Yes	Yes

\*Has app, but can't offline cache music

# STILL MUSIC CHALLENGES THOUGH

- Most wearables/apps can't stream music over LTE/cellular, have to pre-download first
- Some wearable platforms have cumbersome onboarding or music selection process
- Often weird region quirks around availability of apps/music
- Headphone connectivity continues to be tricky for consumers



# NO MORE MEDICAL MAYBE

- Software as a medical device is now in full swing
- Apple rolled out ECG support to US in December, Europe last month
  - Approved by regulators as a medical device
- Fitbit on the periphery, talks a lot
- Garmin on the periphery, doesn't yet certify
- Samsung on the panels, 'in testing mode'
- Withings set to ship product any day now
- Managing expectations is really tough
  - This room, the mountain, the beach – aren't hospitals





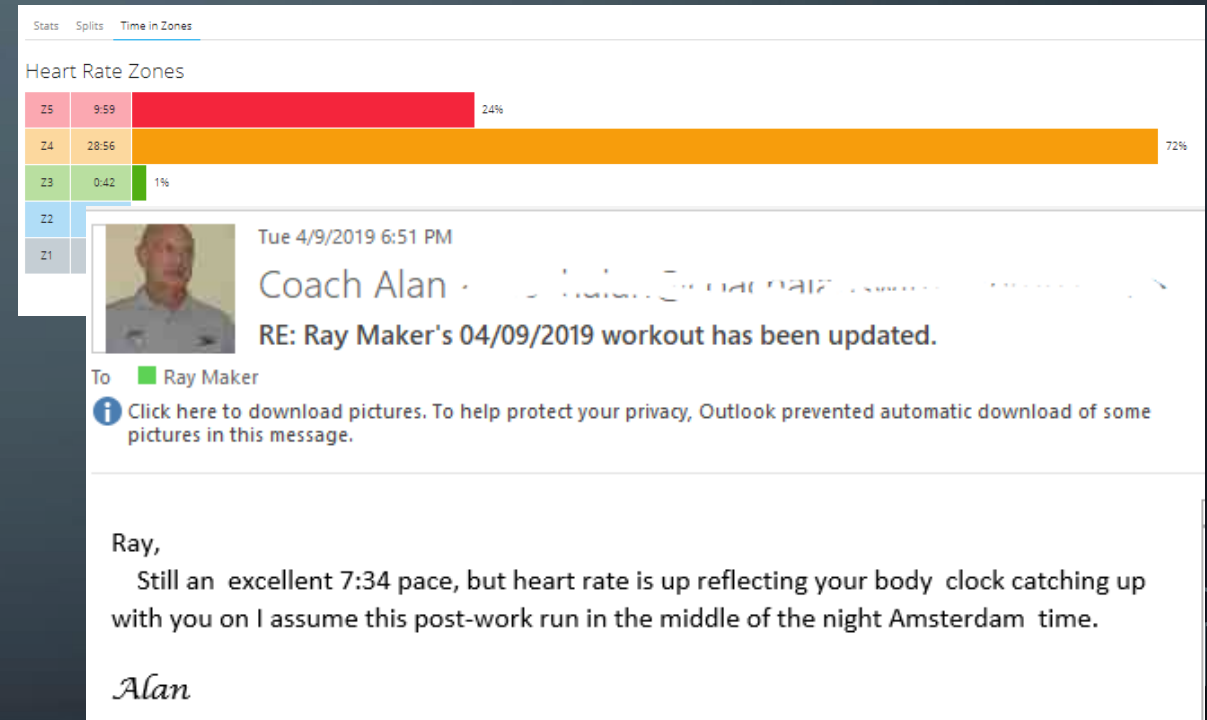
# SO MANY DATA BUCKETS CAPTURED

- A slice of the data collected in one 24 hour period
- It shows things were going downhill, but to what degree? Should I have run?
- Conference welcome event? Apparently stressful
- It doesn't show impact of jetlag though
- But what about today's run? Should I have done that?
- And if so - when should I run?



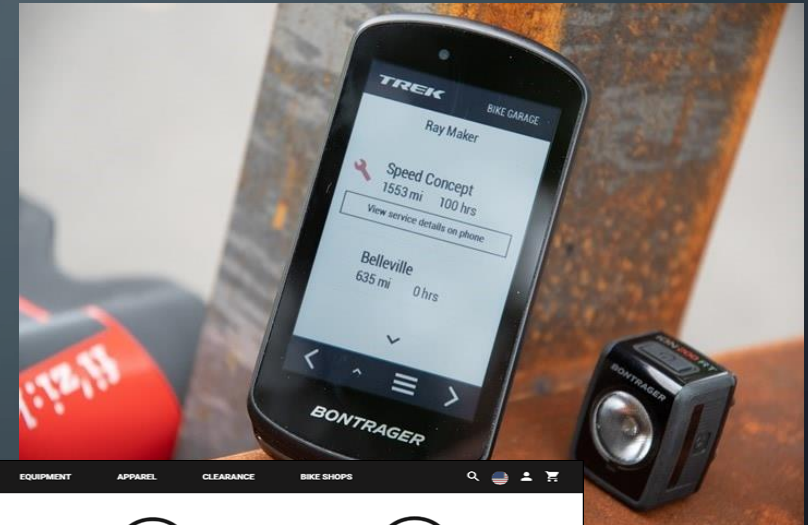
# STILL A GAP BETWEEN COACHING

- It's not yet a coach, but has made progress year over year
- My coach e-mailed me after last night's run with a variant of 'That was special'
- What did he have that Garmin/FirstBeat didn't?
- My watch knows more about my body than anyone
- Most is still reactive, like temp comp



# LEVERAGING CONSUMER DATA: A WIN-WIN?

- Bontrager (Trek) partnered with Garmin to re-brand existing head unit
- Now includes a 'service' app, that automatically tracks your mileage
  - Tells you when to perform basic maintenance tasks (and videos/etc showing how)
  - Tells you when to go get service for various parts
  - Helps you schedule that with local bike shop
- But the motive is ulterior here:
  - Gets you into bike shops: You'll spend more money
  - Allows them to pitch products to you online, based on how much you're riding
  - Can get real usage stats from you



The screenshot shows the Trek website's service page. At the top is a navigation bar with links: BIKES, EQUIPMENT, APPAREL, CLEARANCE, and BIKE SHOPS. Below the navigation bar are three service level icons: a checkmark for 25-hour service, a wrench for 50-hour service, and a gear for 100-hour service. Each icon is above a bicycle graphic. The 25-hour service section includes a description, a list of tasks (Wash frame, components and wheels; Lubricate chain and drivetrain; Pre-ride check with 47-point inspection), and a 'Do it yourself at home:' section with links to videos. The 50-hour service section includes a description, a list of tasks (Lubricate drivetrain; Torque all fasteners; Align and adjust brakes; Align and adjust shifting; Adjust headset; Inspect bottom bracket; Adjust wheel bearings; Bike wash), and a 'Upgrade to Level 2 for:' section. The 100-hour service section includes a description, a list of tasks (Disassemble entire bike and deep clean all parts; Overhaul and replace all bearing systems; Reassemble entire bike and lube all parts; Replace all cables and housing; Advanced wheel true to manufacturer standard; Overhaul front and rear mountain bike suspension parts including dropper post), and a 'Level 3 is everything included in Level 2 plus:' section.

**25-hour Service**  
We recommend running your bike through these simple procedures every 25 hours of ride time or as you feel they are needed. If you are wary of doing any of these at home, a Service Technician at your local Trek store would be happy to assist you.

- Wash frame, components and wheels
- Lubricate chain and drivetrain
- Pre-ride check with 47-point inspection

**Do it yourself at home:**

How to wash your bike [🔗](#)  
How to clean and lube your chain [🔗](#)  
Pre-ride check [🔗](#)

**50-hour Service**  
Everything washed, aligned, adjusted.

After a bike wash and thorough diagnostic checkup, we'll dial in your brakes, tune and lube your shifting to perfection, true and tension the wheels, and recharge everything.

**Level 1 includes:**

- Lubricate drivetrain
- Torque all fasteners
- Align and adjust brakes
- Align and adjust shifting
- Adjust headset
- Inspect bottom bracket
- Adjust wheel bearings
- Bike wash

**Upgrade to Level 2 for:**

- Remove and deep clean all drivetrain components
- Lateral and vertical wheel true

**100-hour Service**  
The entire bike stripped, cleaned, lubed, and returned to new.

Every bolt, every bearing, every part. We'll start by stripping your bike to the bare frame for a deep clean and inspection, then we'll rebuild and rebuild it. If it's been a while, or you want to make it run just like new, this one's for you.

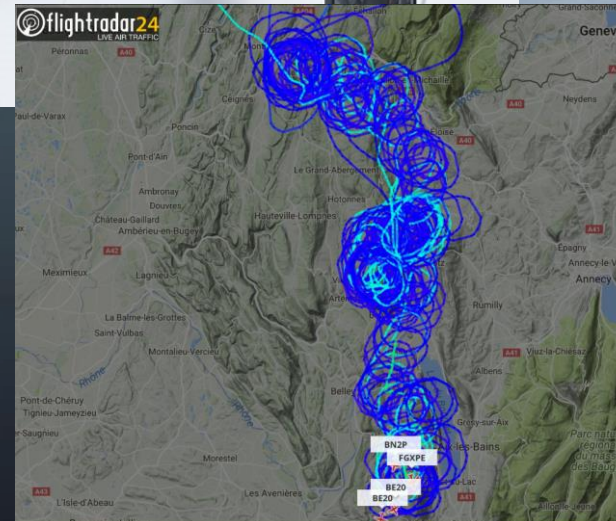
**Level 3 is everything included in Level 2 plus:**

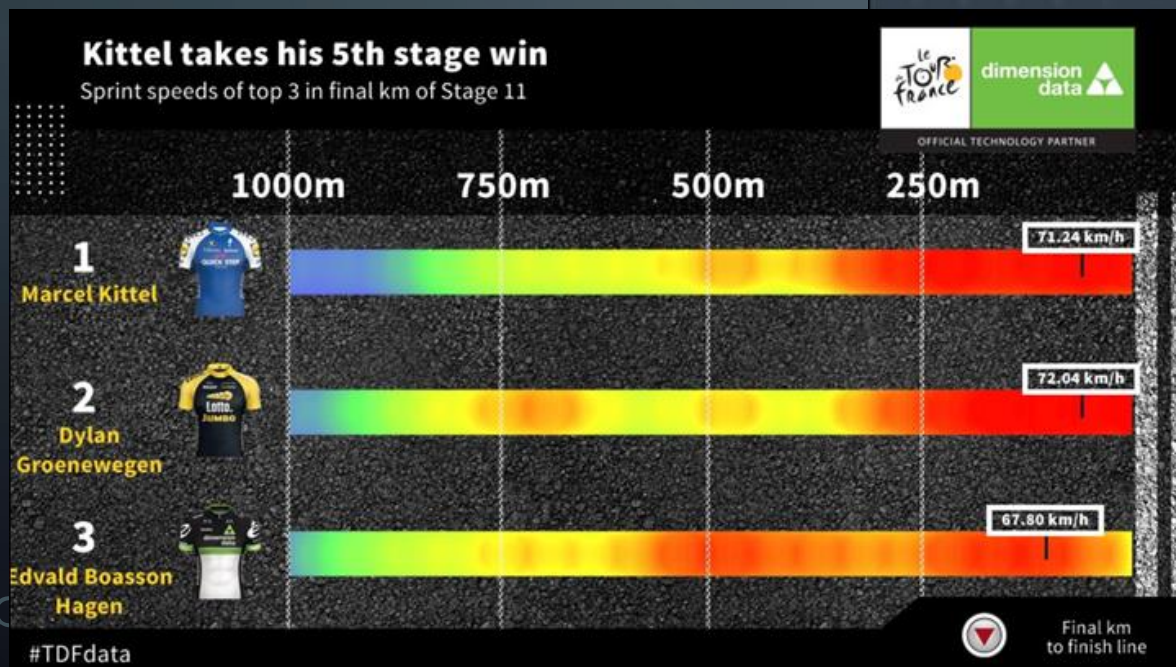
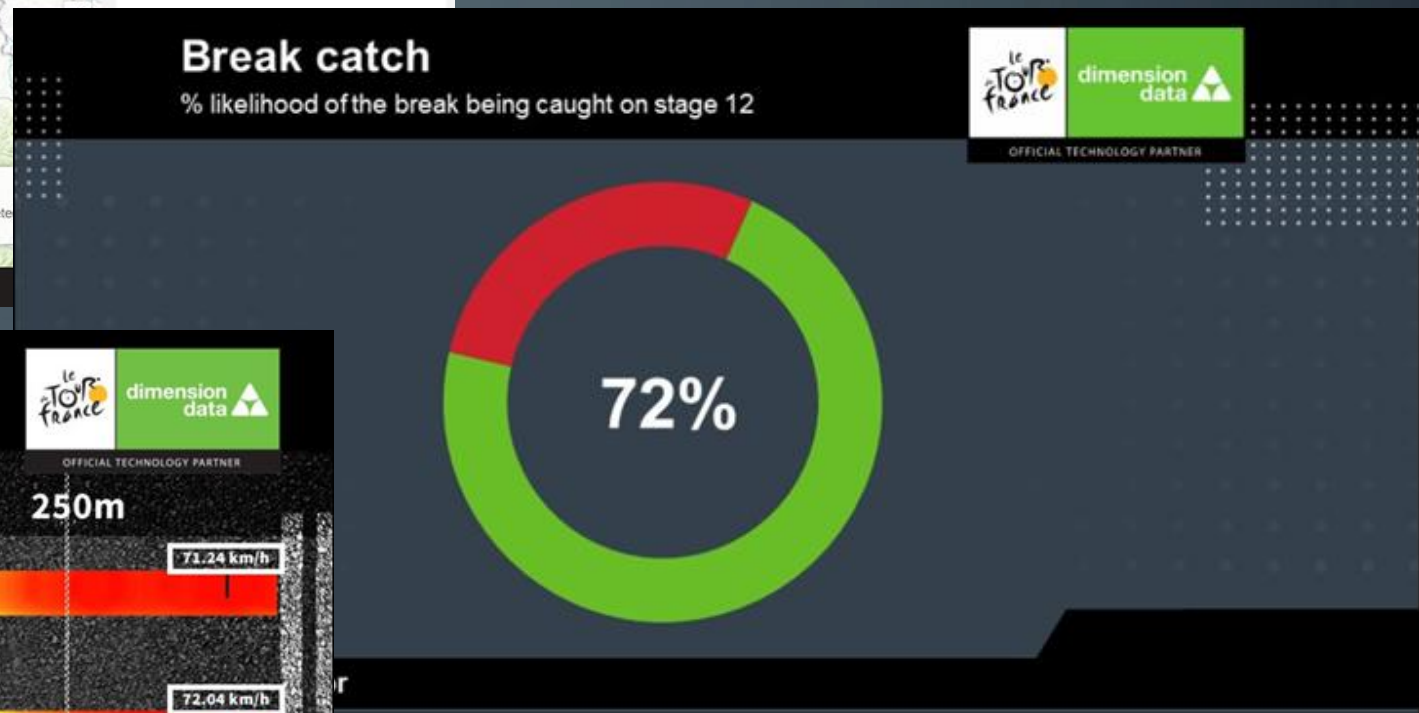
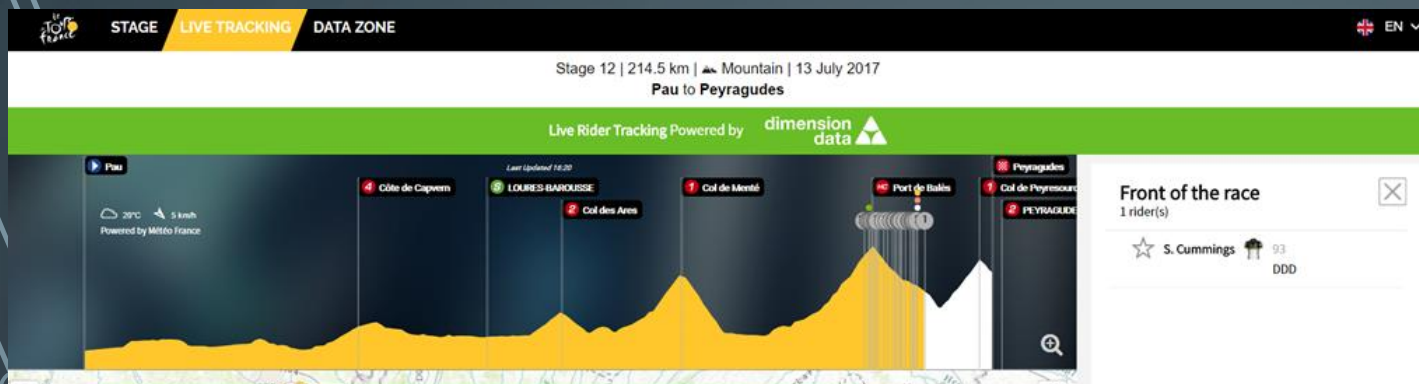
- Disassemble entire bike and deep clean all parts
- Overhaul and replace all bearing systems
- Reassemble entire bike and lube all parts
- Replace all cables and housing
- Advanced wheel true to manufacturer standard
- Overhaul front and rear mountain bike suspension parts including dropper post

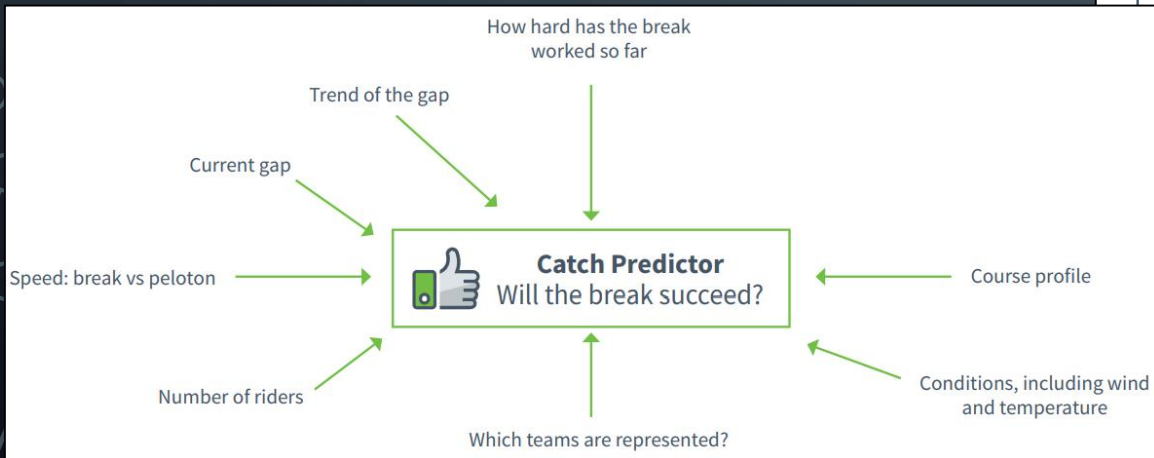
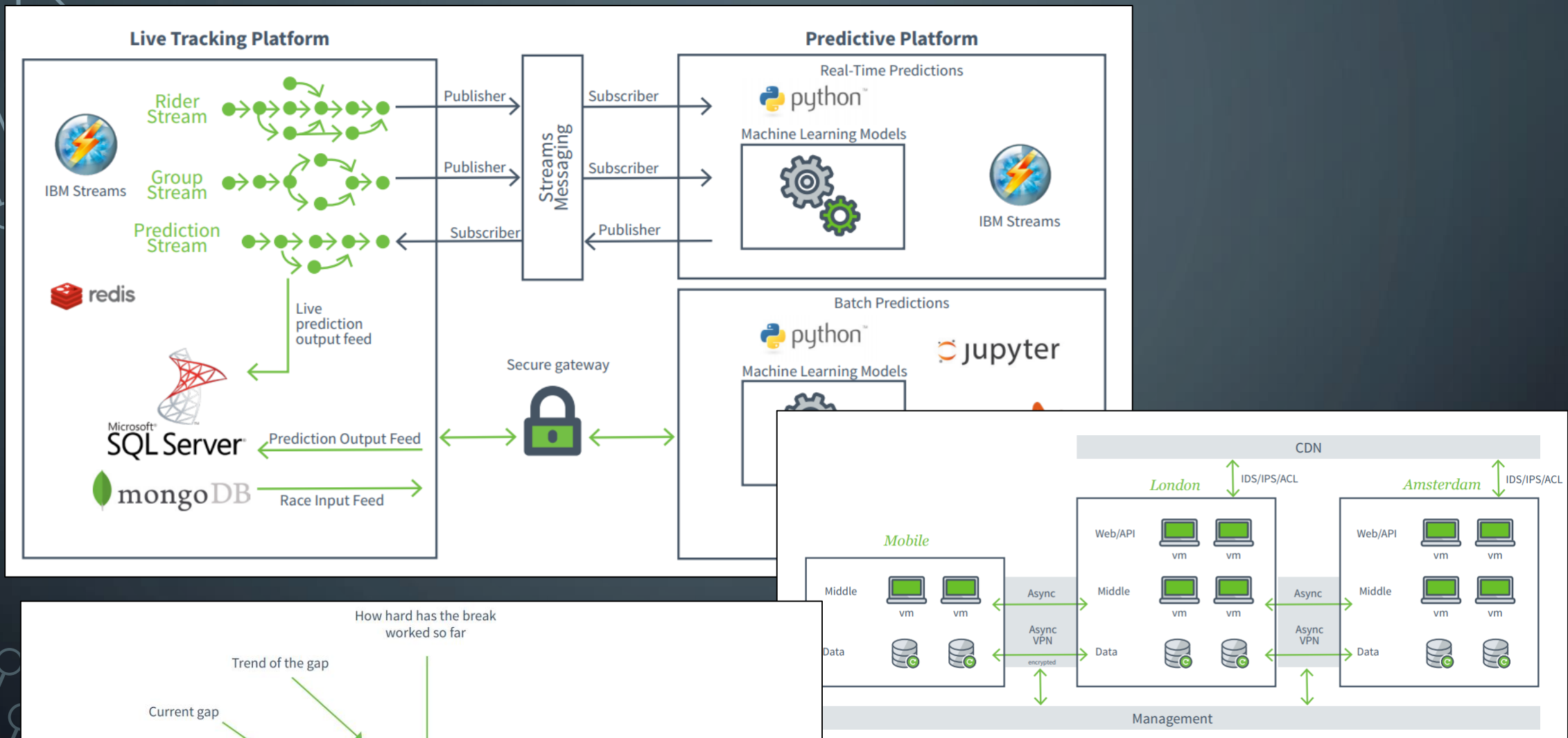


# PRO CYCLING USING TECH FOR FAN ENGAGEMENT

- Dimension Data and Velon, plus others
- Small trackers placed on back of every riders bike
  - Some are cellular based (fine for places like Australia)
  - Some are RF based (for Le Tour)
- Transmit riders data to helicopters/planes/cell towers







Source: <https://www.dimensiondata.com/tourdefrance/-/media/dd/tdf/pdfs/tdf-technology-solution-in-action-white-paper.pdf>



# QUESTIONS AROUND THE DATA

- Nothing that we just talked is seen by the rider during the race
- However, it is used by teams in-cars
- Great debate within cycling:
  - Is tech making cycling less exciting?
    - Riders become like robots, riding to a number
    - Riders have too much information, reducing athlete decisions
  - Or is tech making it more interesting/safer?
    - Riders can be prepared to
- Can the data be used in anti-doping efforts?
  - Can determine super-human efforts, but also concerns our competitive secrets



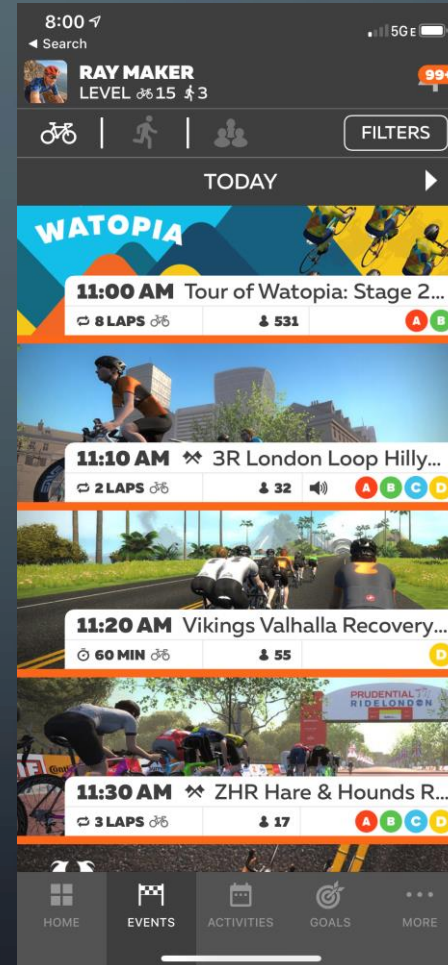
# BARRIER TO PRODUCT ENTRY IN WEARABLES IS RISING FAST

- I'm not sure there's a place for inexpensive no-name running watches anymore
- Major companies like Apple and Samsung at sub-\$200 products
- The feature bar for a \$200 watch is very high
  - GPS & optical HR sensor required
  - Music sometimes required
  - Contactless payments required
- The feature bar for a \$400 sport watch is astoundingly high
  - Even seeing Suunto and Polar struggling in this area
- The feature bar for a cycling computer is way higher once you clear \$250 than it's ever been



# ACCELERATING: SOCIAL TRAINING INSIDE

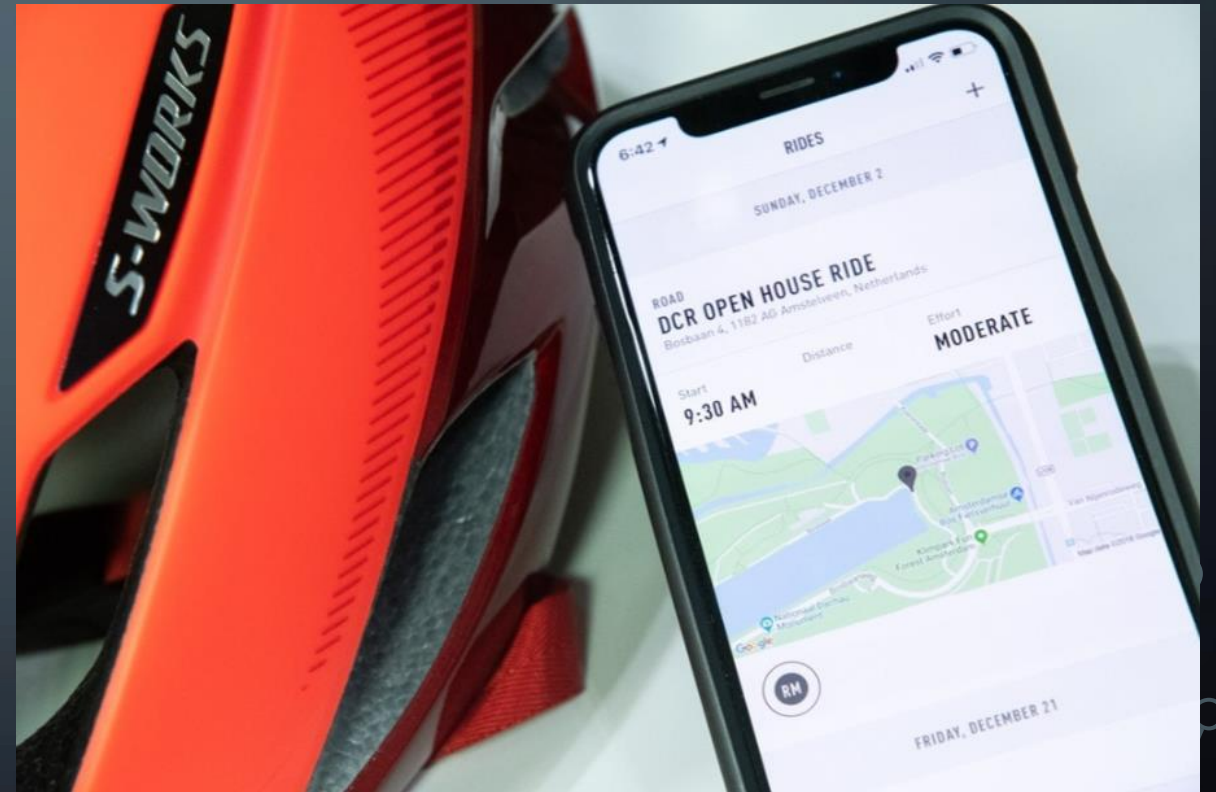
- As each month passes, Zwift becomes less about cycling workouts and more about the social aspect of cycling
- Giro d'Italia this past weekend – some 9,000+ people had virtually tried Stage 1 by end of Day 1
- Racing/Events for \*me\* isn't about winning, it's about accountability
  - Just like an outside group ride/race
- Peloton isn't much different – it's driving you to complete a workout – to get it done





# ACCELERATING: SOCIAL TRAINING OUTSIDE

- Group rides have been around forever, but not supported by cycling tech
- Starting to see twinkles of shifting indoor social scene back outside
  - Specialized app a good example
- TrainerRoad just started offering outdoor riding into their app – a acknowledgement that not everything occurs indoors





# STALLING: RUNNING POWER

## Four core issues:

- 1) Accuracy: Nobody agrees, companies need to realize that no traction will be gained unless they roughly match
- 2) Entry Price: Most options are still too high, requiring a \$200 pod system or a \$400 watch to 'play'
- 3) Too many caveats: No wind support, don't support different surfaces – legit big issues
- 4) Underlying training platforms don't support it well: The key target demographic doesn't have the tools they need



# STALLING: AERO SENSORS

- Too many companies in market at too soon a stage in development
- Only two companies actively shipping products
  - But super limited visibility of these products
- The potential is massive, but the execution is fumbling
- Too difficult to explain how to test still – This is a problem that technology can solve.
- Half will likely go out of business, probably this year





# FLATTENING OUT: POWER METERS

- Just too many offerings – some 18-20 players on the market
- Pricing has mostly stagnated in last 12 or so months
- Product offerings also stagnated – no real reason to get upgrade
- The ever-looming threat of Shimano figuring out how to make an accurate power meter
- Consolidation is ahead







# IT'S ALMOST A COMMODITY

- There are approximately 25 players in the market today
- Prices range from \$50 to \$2,000
  - Price doesn't mean it's bad...or good
  - Different ways of measuring
- Some of the giants actually can't make a good product
- But eventually, it'll become dial-tone
  - Just like Kleenex



# SO HOW DO THESE COMPANIES PIVOT?

- Expanding beyond the baseline:
  - Focusing on niches, or on non-new markets
  - One company just last week offered to retrofit your existing crank arms
- Entirely new product categories:
  - Reverse power meters
- Continue to drive price down further?
- Have your IP acquired
- Have your business acquired



# CONSOLIDATION BEGINS TO CHURN

- Garmin eats Tacx
- SRAM has PowerTap for lunch
- 4iiii swallows STAC Performance
- Others are on the docket:
  - Trainer companies
  - Power meter brands
  - Watches
- Some won't consolidate: Some will disappear





# THE CHALLENGES FOR THE INDUSTRY

- Privacy concerns around data
  - GDPR has helped here, but companies still seem to flirt with this
- Misunderstandings by users on how their data is visible
- So much data being collected, but very little is actually leveraged
- Bad studies still seem to linger
  - Just week: UK wearables study





# YOUR BIGGEST OPPORTUNITIES

- Make users say 'Holy Crap'
- Even the most mundane apps can do that, if they succinctly solve a problem the user has
- Even the most boring of platform services from an IT standpoint can be exciting for the target user
- Oh, as always...just make cool shit.



The background is a dark blue gradient. In the corners, there are decorative white line art elements resembling circuit boards or neural networks, with lines and small circles.

# Thanks!

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